MINISTRY OF FINANCE

Overview of Central Government Risks and Liabilities, Autumn 2020

Economic Policy

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Abstract

Central government liabilities have been increasing for many years. In 2008, just before the start of the financial crisis, central government debt totalled EUR 54 billion. At the end of 2019, it exceeded EUR 106 billion. Guarantee liabilities grew by about EUR 37 billion over the same period, reaching EUR 60.2 billion in 2019.

The favourable trend in the economy of recent years came to an abrupt halt in spring 2020, due to the coronavirus (COVID-19) crisis. The economy began to shrink, employment declined and unemployment grew. At the same time, the Government sought to reduce the detrimental economic impact of the crisis through various support measures. This increased central government liabilities, pushing them considerably beyond the level at which they were already rising.

When assessing the risk position of central government, implicit liabilities are also important. These are not legally binding on central government, but for public policy reasons central government is expected to carry the liability for them. One key implicit liability concerns local government. In local government, too, liabilities have grown considerably in recent years. In 2019 alone, local government loans grew by EUR 1.7 billion, increasing the total loan stock to more than EUR 18 billion by the end of 2019.

In recent years, curbing the growth in central government liabilities has proved to be challenging, despite the relatively favourable state of the economy. Keeping the growth in liabilities in check in the post-pandemic years will be yet more challenging. Nevertheless, to prepare for future crises it is essential to improve the risk- bearing capacity of central government.

Keywords central government's balance sheet, off-budget liabilities, guarantee liabilities, economic policy, general government finances, central government finances

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Katsaus valtion taloudellisiin vastuisiin ja riskeihin, syksy 2020

Valtiovarainministeriön julkaisuja 2021:14		**Teema**	Talouspolitiikka
Julkaisija	Valtiovarainministeriö		
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Kieli	englanti	**Sivumäärä**	80

Tiivistelmä

Valtion vastuut ovat kasvaneet pitkään. Valtionvelka oli vielä finanssikriisin kynnyksellä vuonna 2008 54 mrd. euroa. Vuoden 2019 lopussa se ylitti 106 mrd. Vastaavalla ajanjaksolla takausvastuut ovat kasvaneet noin 37 mrd. eurolla ollen 60,2 mrd. vuonna 2019.

Viime vuosien suotuisa talouskehitys koki keväällä äkkipysäyksen koronakriisin myötä. Talous lähti supistumaan, työttömyys kasvamaan ja työllisyys heikentymään. Samaan aikaan valtio on erilaisin tukitoimenpitein pyrkinyt lieventämään kriisin haittoja talouteen. Tämä on kuitenkin lisännyt merkittävästi valtion vastuita, jotka olivat jo valmiiksi kasvu-uralla.

Valtion riskiasemaa arvioitaessa myös ns. piilevillä vastuilla on merkitystä. Ne eivät ole valtiota oikeudellisesti velvoittavia, mutta yhteiskunnallisten tekijöiden takia valtion odotetaan kantavan niistä vastuun. Yksi keskeinen piilevä vastuu liittyy paikallishallintoon. Myös sen vastuut ovat kasvaneet huomattavasti viime vuosina. Pelkästään vuonna 2019 kuntien lainamäärä kasvoi 1,7 mrd. eurolla lainakannan ollessa viime vuoden lopussa yli 18 mrd. euroa.

Valtion vastuiden kasvun hillitseminen on osoittautunut viime vuosina vaikeaksi verrattain suotuisasta talouskehityksestä huolimatta. Koronakriisin jälkeisinä vuosina vastuiden kasvun taittaminen on vieläkin haastavampaa. Tuleviin kriiseihin varautumiseksi valtion riskinkantokyvyn parantaminen on kuitenkin tärkeää.

Asiasanat	talouspolitiikka, julkinen talous, valtiontalous, valtion tase, talousarvion ulkopuoliset vastuut, takausvastuut		
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Översikt över statens finansiella åtaganden och risker, hösten 2020

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Referat

Statens ansvar har ökat redan en längre tid. Inför finanskrisen år 2008 var statsskulden 54 miljarder euro. I slutet av 2019 överskred den 106 miljarder. Under samma tidsperiod har borgensansvaret ökat med ca 37 miljarder euro och var 60,2 miljarder euro 2019.

Till följd av coronakrisen blev det tvärstopp för de senaste årens gynnsamma ekonomiska utveckling. Den ekonomiska tillväxten började stanna av, arbetslösheten växa och sysselsättningen försvagas. Samtidigt har staten genom olika stödåtgärder strävat efter att lindra krisens negativa effekter på ekonomin. Detta har dock avsevärt ökat statens ansvar, som redan tidigare hade börjat öka.

Vid bedömningen av statens risker har också s.k. dolda ansvar betydelse. De är inte juridiskt bindande för statens del, men samhälleliga faktorer gör att staten sist och slutligen förväntas bära ansvaret för dem. Ett centralt dolt ansvar har att göra med den lokala förvaltningen. Också lokalförvalningens ansvar har ökat betydligt under de senaste åren. Enbart 2019 ökade kommunernas lånebelopp med 1,7 miljarder euro och lånebeståndet vid utgången av förra året var över 18 miljarder euro.

Att dämpa ökningen av statens ansvar har under de senaste åren visat sig vara svårt trots den relativt gynnsamma ekonomiska utvecklingen. Under åren efter coronakrisen är det ännu mer utmanande att hejda ökningen av ansvaren. För att vara beredd på framtida kriser är det dock viktigt att statens risktäckningskapacitet förbättras.

Nyckelord	statens balansräkning, ansvar utanför budgeten, borgensansvar, finanspolitik, offentlig ekonomi, statsfinanserna		
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Contents

Summary

The favourable trend in the Finnish economy of recent years came to an abrupt halt in spring 2020, as the COVID-19 pandemic morphed into a global crisis. The uncertainty caused by the pandemic as well as the various restrictions that had to be imposed to contain the spread of the virus dramatically changed the situational picture concerning the economy both in Finland and the world over. Even as late as in autumn last year, the Ministry of Finance forecast that was prepared to serve as a basis for the 2020 Budget projected economic growth at just under 1% in 2020. The outbreak of the COVID-19 crisis turned the economic outlook upside down, however, and the Ministry has had to make a major downward revision of its growth projection for 2020. Made in October, the most recent projection of the Ministry expects GDP to contract by 4.5% in 2020.

The economic distress caused by the coronavirus crisis has rapidly and significantly weakened the central government risk position. Concurrent with a rise in unemployment and a decline in employment, central government has introduced a variety of support measures to alleviate the adverse effects of the coronavirus pandemic in various sectors of the economy. Together, these measures have resulted in a major increase in central government borrowing. While central government debt totalled EUR 106.4 billion at year-end 2019, it had climbed to above EUR 120 billion by the end of September 2020.

A noteworthy aspect regarding direct liabilities of central government is their longer-term trend. Both in terms of nominal value and relative to GDP, central government debt has increased substantially over the past decade. In 2008, just before the financial crisis, central government debt totalled around EUR 54 billion. This means the amount has more than doubled in 12 years.

The risks borne by central government are also increased by its contingent financial liabilities. As is the case with direct liabilities of central government, contingent liabilities have also long been on the growth track. In 2019 alone, central government guarantees in effect increased by EUR 3.6 billion, with the liability portfolio exceeding EUR 60 billion at year-end 2019. Ten years earlier, the guarantee portfolio had been EUR 23 billion.

The largest contingent liabilities are associated with the operations of the state-owned specialised financing company, Finnvera, and with housing finance. As regards Finnvera, the central government liabilities in effect totalled EUR 32.6 billion at year-end 2019,

up more than EUR 2 billion year on year. The liabilities of the Housing Fund of Finland increased by around EUR 0.8 billion over the year and totalled EUR 15.3 billion at year-end 2019. Additionally, these liabilities are highly concentrated in certain industries and enterprises. The risks involved in this have become visible in the context of the coronavirus crisis. The cruise industry is among the industries that have been hit the hardest by COVID-19 and accounts for a significant share of Finnvera's export financing liabilities. In its Half-Year Report, Finnvera reported an increase of EUR 475 million in expected losses associated with export credit guarantees and special guarantees due to the substantially deteriorated outlook of the cruise industry.

The COVID-19 pandemic has also resulted in the need for additional central government guarantees amounting to billions of euros. In the spring, for example, central government authorised a guarantee programme of EUR 600 million for shipping companies that are critical for security of supply and a guarantee of up to EUR 540 million for a loan taken out by Finnair Plc. The new crisis management tools established within the EU have also increased the contingent liabilities of central government. To cover any losses of the European Investment Bank, a Pan-European Guarantee Fund in response to COVID-19 was created, with the Finnish share of the liabilities amounting to EUR 371 million. To mitigate unemployment risks, the EU established the SURE instrument, for which the calculated guarantee liability of Finland totals EUR 432 million. In addition to these, Finland's liabilities will be increased by the recovery instrument, but the related negotiations are still underway.

However, when examining the overall risk position of central government, implicit liabilities must also be taken into account. These are not legally binding on central government but, due to political and societal factors, central government is nevertheless expected to bear the ultimate responsibility for them. One of the key implicit liabilities pertains to the banking sector. The COVID-19 crisis and the resulting low economic sentiment has also been reflected in the operating environment of Finnish banks. During the first half of the year, banks set aside provisions for credit losses and impairment of receivables to a total of almost EUR 950 million, while the corresponding figure a year earlier had been EUR 141 million. Despite the weaker economic situation, the solvency and liquidity situation of Finnish banks remains good and is clearly stronger than the EU average.

Another key implicit liability of central government is related to local government. Finnish municipalities have broad autonomy and are liable for their own financial obligations. Municipalities are, however, part of general government finances. This is why any extensive problems in local government finances would be likely to be reflected in one way or another on central government finances, too.

As is the case with central government, also municipalities' direct liabilities have increased considerably in recent years. During 2019 alone, municipal indebtedness increased by EUR 1.7 billion and totalled EUR 18.4 billion at year-end 2019. Municipal indebtedness has more than tripled in less than 20 years. As regards municipal guarantees, however, the changes seen in the past three years have been minor, with the municipalities' guarantee portfolio remaining just under EUR 10 billion in recent years. Over the longer term, however, the guarantee liabilities of municipalities, too, have shown significant growth. In 2008, municipal guarantees totalled EUR 5.5 billion.

The coronavirus crisis has worsened the economic situation of municipalities, too. In its 2020 supplementary budgets, the Government has had to support municipalities and hospital districts with a total of around EUR 2.2 billion (situation in October 2020).

The long-term increase in central government liabilities, which has been accelerated by the coronavirus crisis, has weakened the risk-bearing capacity of central government. One way of examining risk-bearing capacity is to conduct a stress test for general government finances. The stress test carried out for this overview is based on the severe coronavirus crisis scenario in accordance with the June macroeconomic projection of the European Central Bank (ECB). Also the scenario for financial market developments used by the European Banking Authority (EBA) in its stress tests for banks was utilised.

The stress test assumes that the coronavirus pandemic will worsen dramatically in late 2020 and will not begin to subside until mid-2021 once a vaccine becomes available. The COVID-19 situation and measures to contain it will weaken economic growth, increase unemployment and cause asset price declines. The stress test indicates that Finland's economic growth over the three-year period will be 6.5% below the baseline.

Already difficult at the outset, the state of general government finances in Finland shows a considerable decline in the stress test. General government budgetary position weakens by more than 3 percentage points relative to GDP when compared with the baseline. This pushes the debt-to-GDP ratio up to almost 85% – around 10 percentage points above the baseline. Any partial realisation of guarantee liabilities would weaken the situation further by increasing the deficit and the debt-to-GDP ratio.

Central government assets are also of significance with regard to central government capacity to bear risks and cope with economic crises. Central government financial assets totalled almost EUR 115 billion in the second quarter of 2020. The stress test conducted for this report examined the impacts of uncertainties in the financial market and of price changes on central government financial assets and net debt position development. In the stress test, central government financial assets decrease by more than EUR 12 billion in 2020 due to declining share and property prices. A partial rebound in prices is seen

towards the end of the period examined, with central government financial assets being EUR 3 billion below the baseline at the end of 2022.

The decrease in financial assets will be reflected in central government net debt position. Central government net debt was still negative before the financial crisis but since then has increased to around 15%–20% of GDP. The stress test indicates a further significant decline in net debt position as the net debt-to-GDP ratio exceeds 30%.

The stress test excludes any need for capital injections for banks or other financial institutions. The debt crisis in the euro area is also not expected to be reignited and no liabilities under the financial assistance facilities for euro area countries are expected to be realised for payment, either. However, the possibility of such tail risks cannot be fully excluded. The negative impacts of any more extensive banking or debt crisis on general government finances would be considerably greater than in the stress test scenario used in this overview.

In recent years, Ministry of Finance Overviews of Central Government Risks and Liabilities have raised concerns about the narrowing of the fiscal space and the weakening of the risk-bearing capacity of central government. There has been a strong increase in liabilities across a broad range and, at the same time, the outlook for economic growth has been subdued and age-related expenditure has been on a growth trajectory. This concern has increased further due to the coronavirus crisis and its repercussions. Reversing the uptrend in liabilities after the crisis will, however, be difficult and require robust measures. To prepare for future crises, central government should significantly improve its risk-bearing capacity.

1 Introduction

Central government liabilities have been on an upward trajectory for a long time in Finland. Both direct and contingent central government liabilities were at a significantly higher level at the end of last year than just over a decade ago. Central government debt totalled around EUR 106 billion at year-end 2019, while the corresponding figure at the end of 2008 had been EUR 54 billion. Central government guarantees increased from EUR 23 billion to more than EUR 60 billion over the same period.

The changes in the amount of liabilities have been significant. Coupled with the moderate longer-term growth outlook dampened by a reduction in labour input and weak productivity development, the increase in liabilities has meant a decline in central government risk-bearing capacity.

Risk-bearing capacity has declined further due to the COVID-19 pandemic that reached Finland in the spring. Although it may take years until the actual scale of the societal and economic impacts of the coronavirus crisis are known, it is already clear that the crisis is resulting in a considerable increase in central government liabilities.

A variety of restrictive measures that have dramatically hampered economic growth this year have been necessary to curb the spread of the virus. There has been a rise in unemployment and a decline in employment, while at the same time central government has introduced a variety of support measures to alleviate the adverse effects of the coronavirus pandemic on the economy. These are projected to result in an increase of as much as EUR 20 billion in central government net borrowing. Central government debt passed the EUR 120 billion mark in September.

The impacts of the coronavirus pandemic on central government risk position can be seen more broadly than merely as an increase in direct liabilities. The pandemic has created a significant additional need for undertakings including central government guarantees both nationally and within the EU. The low economic sentiment caused by the coronavirus crisis has put increasing pressure on municipalities, too. Local government debt has been increasing for a long time, and the coronavirus is further worsening the situation of municipalities. In the 2020 supplementary budgets, the Government has had to provide the local government sector with support totalling around EUR 2.2 billion (situation in October).

Although central government does not carry statutory liability for the financial obligations of municipalities, municipalities are part of general government finances and, consequently, create an implicit liability for central government.

This report provides an overview of the development of not only central government liabilities but also of assets over the past ten years or so. Efforts have been made to use the most recent data possible to enable the estimation of also the short-term impacts of the coronavirus crisis on central government risk position.

The more detailed structure of the report is as follows. Chapter 2 describes the risks related to macroeconomic trends in Finland. One of the issues examined is the extent to which confidence factors of economic agents explain the economic decline seen in Finland during the coronavirus pandemic. Chapter 3 focuses on central government financial assets. Chapter 4 moves on to discuss government liabilities, starting from direct financial liabilities.

Chapter 5 focuses on contingent liabilities of central government, with explicit contingent liabilities that involve a legal obligation for central government discussed first. The latter section of chapter 5 focuses on implicit contingent liabilities where central government does not have legal liability but may have to carry liability due to societal or political factors. The last chapter of the report gives the results of a stress test of general government finances that examines the impacts of a sudden economic downturn on general government key figures.

2 Macroeconomic risks

Forecasting economic prospects is essential for financial planning and decision-making. Forecasts strive to describe the most likely direction of economic development. However, forecasts always involve risks and uncertainties which, should they materialise, may lead to a more negative or more positive development than anticipated.

2.1 Forecast underpinning Budget 2020

The 2020 Budget was based on a forecast prepared in September 2019, in which GDP was expected to grow by 1.4% in 2019, with growth slowing to 0.9% in 2020. The continuation of international trade conflicts was expected to have implications for Finnish exports and investments, too. Growth in all components of aggregate demand was anticipated to continue, however, and public sector expenditure in particular was expected to support economic growth particularly in 2020.

It was obviously not yet known in September 2019 that the COVID-19 pandemic would totally transform the economic outlook of 2020. Economic forecasts for 2020 have been turned upside down everywhere in the world. The Ministry of Finance has made two downward revisions of its projections for 2020 during the year. According to preliminary statistics for the first months of the year, Finnish GDP appears to have shrunk less than anticipated by these two projections. The third projection for this year is slightly more optimistic than the other two but still forecasts a 4.5% decline in GDP for 2020. Estimates of the impacts of the COVID19 pandemic on economic development in the first part of the year are still uncertain, with more statistical data yet to become available.

Always based on the most recent projection available, the 2020 supplementary budgets have sought to safeguard jobs and the functioning of enterprises and society as a whole. Public sector expenditure has increased significantly, but at the same time the restriction measures taken to curb the spread of the COVID-19 pandemic as well as people's voluntary self-isolation have reduced demand for certain services provided by the public sector, such as the use of child daycare and non-urgent healthcare services.

Ministry of Finance forecasts made this year assume that the incidence of COVID19 infections will gradually subside this year. Potential new waves of the epidemic cannot be

ruled out, however. Economic agents will therefore have to make their decisions amidst heightened uncertainty.

2.2 Confidence of economic agents during the COVID-19 pandemic

The impacts of domestic uncertainty and confidence factors on the macroeconomy have been examined using the DSGE model KOOMA developed by the Economics Department of the Ministry of Finance. The calculation explains only part of the economic decline in Finland experienced during the pandemic. The period examined is from 2020 to 2021. Results are reported as deviations from the baseline in percentage points.

Any decline in household confidence in the future has a negative impact on consumption decisions made today. The model does not feature a variable that directly reflects confidence of economic agents. Such changes can, however, be depicted using the consumer preference shock, which affects the benefit of consumption experienced by the consumer in relation to leisure time.

In the calculation there is a decline in consumer confidence in the second half of 2020. This is carried out with a shock of two percentage points the size and persistence of which is estimated (the Structural Vector Autoregressive (SVAR) model). The shock will weaken, with its impact eliminated during the first quarter of 2021.

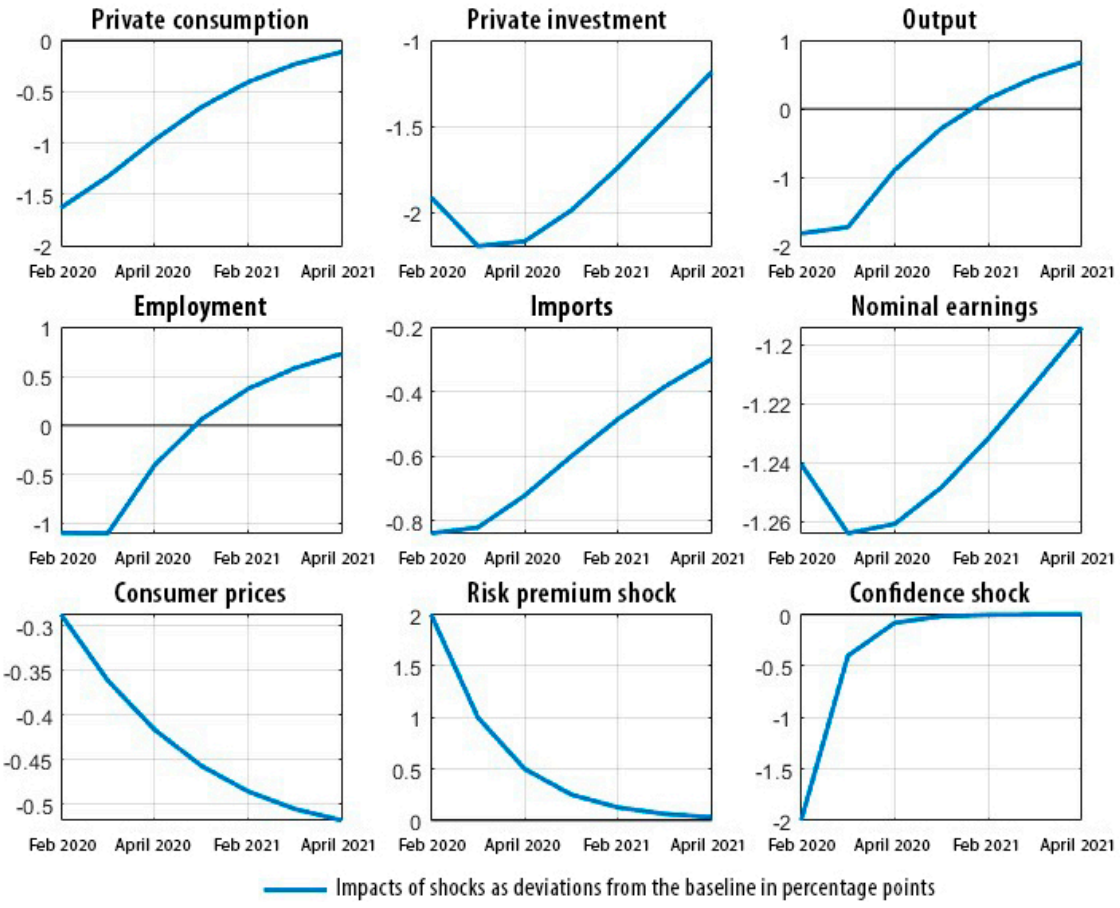
Greater uncertainty is modelled using a rise of risk premium. The calculation assumes the risk premium will rise by two percentage points and then decline, with its impact eliminated at the end of 2021. According to the forecast made this spring by the European Commission, an increase of 2–4 percentage points was seen in risk premiums in conjunction with the financial crisis, and the impact duration of the risk premium increase is in line with the observations of the literature. An increase in the risk premium reduces the amount of foreign bonds, increases demand for domestic bonds and raises domestic interest rates. Higher interest rates reduce investments by more than 2% and domestic demand by more than 1.5%.

Lower consumption and investments result in also production declining by just under 2% during the second quarter of 2020. Both GDP and imports are also in decline. Slower GDP growth can also be seen as lower employment rates and a slower pace of rises in wages and salaries. Together, these reduce the purchasing power of households and decrease consumption even beyond the first quarter of 2021. Low demand and slower growth in

wages and salaries can also be seen as a lower price level. Shocks have a long-term impact on investment decline.

These two disturbances explain only part of the dynamics of the economy. Exports and export-dependent manufacturing industry also play a role in economic recovery. That is why the recovery of the global economy is crucial for the Finnish economy in the post-COVID-19 recovery process.

Figure 1. Decline in economic agent confidence and growing uncertainty



Source: Calculations by the Ministry of Finance.

3 Central government financial assets and associated risks

In this overview, financial assets include central government cash assets, major loan receivables, fixed-income investments, shares and other investments. The scope of the review is determined by the liquidity perspective and on the basis of the amount of the assets.

Table 1 sums up central government financial assets at year-end 2019 and during the first two quarters of 2020. The coronavirus triggered major uncertainties in the economy and the financial market, which is why central government increased its cash funds considerably (for more details on central government cash assets see section 3.1). The plummeting of the stock markets in the early weeks of the crisis in turn had a negative effect on central government share assets and assets of the State Pension Fund, although the situation in these respects has already improved almost to the pre-crisis level. According to Statistics Finland financial accounts, central government financial assets totalled around EUR 96 billion in the second quarter of 2020 and around EUR 115 billion when also taking the State Pension Fund into account.

Only part of the central government financial assets shown in Table 1 can be realised relatively quickly to finance central government liabilities and activities. In addition to deposits, such assets mainly comprise some of the central government investment assets.

Table 1. Central government financial assets in 2019 and during quarters 1 and 2 of 2020

Central government financial assets	2019	Q1 2020	Q2 2020
	EUR million	EUR million	EUR million
Total deposits	3,061	15,421	17,377
State Treasury cash assets	2,200	14,450	16,304
Other deposits	861	971	1,073
Total loans	13,061	13,025	13,218
Arava	3,700	3,500	3,500
Business Finland	1,046	1,088	1,115
Loan to Greece under programme 1	1,005	1,005	1,005
EFSF*	3,401	3,401	3,401
Other loans	3,909	4,031	4,197
Shares and participations	55,605	48,735	54,561
Listed shares	28,859	22,736	27,081
Unlisted shares and other participations	23,430	23,294	24,565
Fund units	3,316	2,705	2,915
Swaps and other derivatives	6,351	7,099	7,009
Other receivables	3,817	3,000	3,483
State Pension Fund	20,588	17,863	19,271
Total assets	102,483	105,143	114,919
Assets excluding State Pension Fund	81,895	87,280	95,648

*Finland's share of the loans granted by the EFSF, situation at year-end 2019
Sources: Statistics Finland financial accounts and State Pension Fund

3.1 Central government cash funds

Central government started to rapidly increase its cash funds in March 2020 when the coronavirus pandemic intensified (Figure 2).1[1] Underlying this decision were the considerable economic and financial market uncertainties caused by the pandemic as well as the strong increase in central government financing needs resulting from the various public support measures. While the end-of-month average of cash assets administered by the State Treasury calculated for 2019 had been EUR 4.3 billion, at the end of March 2020 the cash funds exceeded EUR 14 billion. The cash assets have remained exceptionally large since then, too.

Central government increased the amount of its cash assets in the spring in particular by utilising government Treasury bills, which are short-term funding instruments (with maturity of a maximum of one year). In late 2019, the government Treasury bills totalled less than EUR 6 billion, whereas at the end of March 2020 the figure already exceeded EUR 13 billion and has been taken even higher since that. Developments in central government debt are reported in more detail in section 4.1.

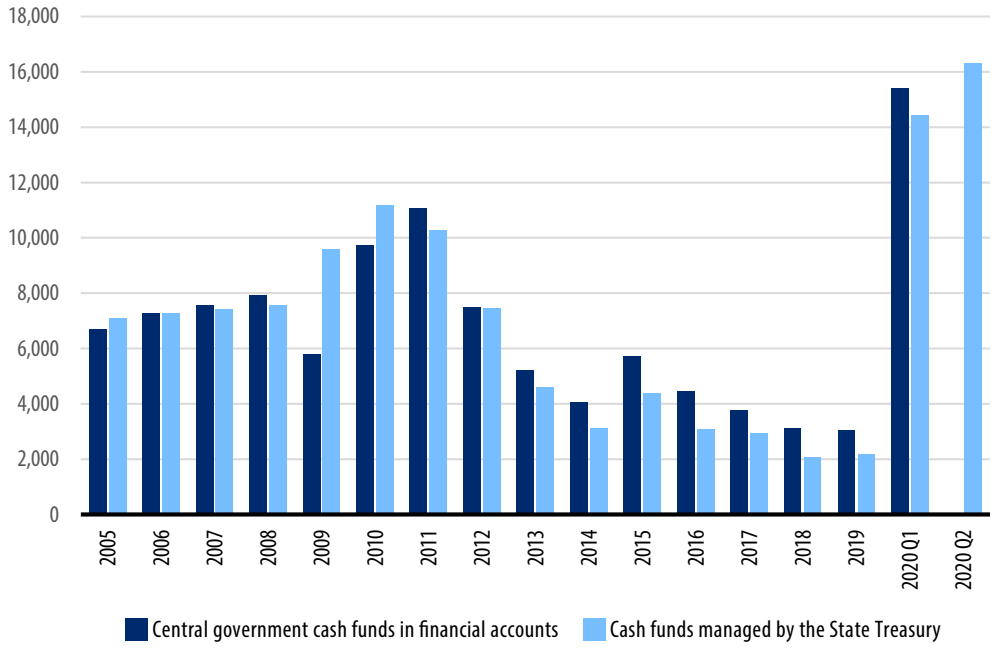
Over the longer term, the State Treasury has, on the basis of its assessment of sufficient liquidity, been systematically lowering the amount of cash reserves since 2011. The reasons underlying this include not only the good funding capacity of central government but also the switch to liquidity-based cash management.

An additional factor enabling cash funds to be kept at a moderately low level is using a cash fund forecast system to support cash management. State agencies enter their revenue and expenditure forecasts for the following 12-month period in the Rahakas cash flow forecast system. The State Treasury uses this information in its liquidity management and when making decisions on funding.

Central government cash funds are invested in financial market instruments with a remaining maturity of one day to a couple of months, which exposes the central government to a credit risk. This credit risk is minimised by such means as diversification, using tri-party repo contracts, and selecting low credit risk options when investing cash funds, taking the liquidity perspectives into account, however.

1 Figure 2 shows cash funds according to the financial accounts as well as the cash assets administered by the State Treasury. The difference between the two is largely explained by the units included in the examination. For example, the cash funds of such entities as Solidium Oy, the Development Fund for Agriculture and Forestry and Senate Properties are included in the financial accounts but not in the State Treasury's figures. The cash funds managed by the State Treasury are relevant from the perspective of central government liquidity. Ensuring central government liquidity is the most important task of cash asset management.

Figure 2. Development of central government cash funds, EUR million



Sources: General government financial accounts; State Treasury

3.2 State Pension Fund

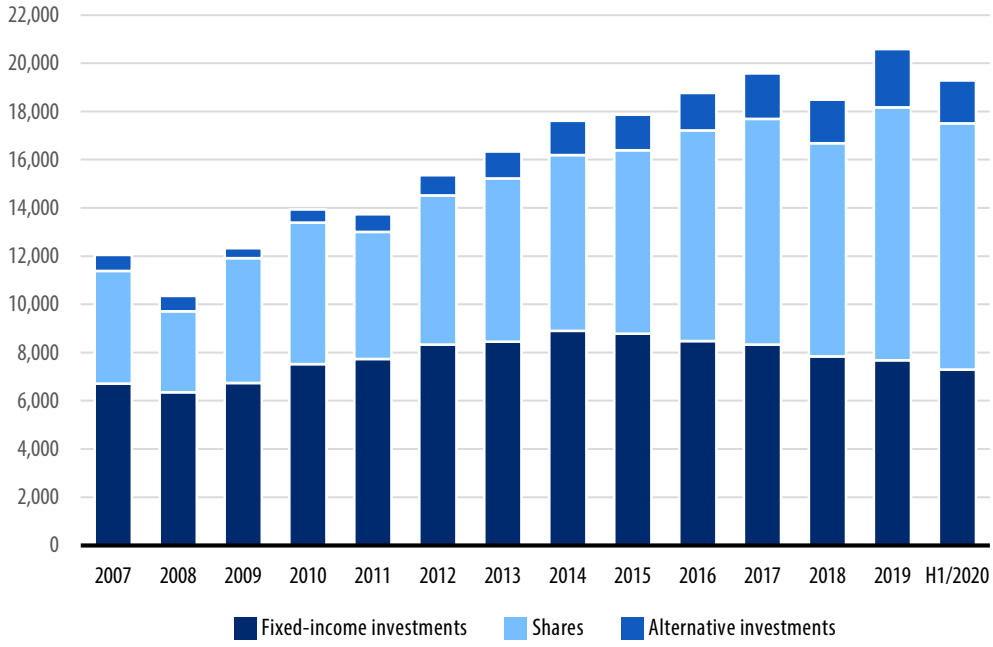
The State Pension Fund (VER) is an off-budget fund used to prepare for funding government employees' pension expenditure and to level out the expenditure burden of different years. The pension contributions of employers and employees within the scope of the central government pension scheme are remitted in full to a fund, from which a sum amounting to 40% of the annual central government pension expenditure is then transferred to the Budget every year. The assets held by VER are central government assets but managed by the fund. The costs arising from these operations are paid from the assets managed by VER. VER's revenue comprises the pension contributions and other fees paid to the fund as well as the investment returns.

At year-end 2019, the market value of VER's investments was EUR 20.6 billion. Of these, 37.3% were fixed-income investments, 50.9% investments in equities, 10.4% alternative investments and the remainder impacts of derivatives. The nominal returns over the past ten years have averaged 6.2%, or 4.5 percentage points higher than the average cost of central government debt. The total return on investments was 13.8% in 2019.

The outbreak of the coronavirus crisis in the spring triggered significant price impacts on the market, which was naturally also reflected in returns from VER's investments in the first half of 2020. The largest decline was seen in equity investments, with the return on listed equities being -21.6% for the first quarter of 2020. The market did, however, recover during late spring and the summer, and the return on e.g. listed equity investments was -8.5% for the first half of the year.

VER's financial assets entail market risks (currency, credit and interest rate risks, as well as price risk). The fund has taken measures to manage these risks by extensive diversification of its investment portfolio geographically and by type of securities. VER's investment portfolio had a volatility of 4.7% in 2019.

Figure 3. State Pension Fund's investment assets, EUR million



Source: State Pension Fund

3.3 Other state holdings in listed companies

The market value of state holdings (including direct state holdings and those of Vake Oy and Solidium Oy) was around EUR 29 billion at year-end 2019. At the end of 2019, the State of Finland owned four listed companies directly (Altia Corporation, Finnair Plc, Fortum Corporation and Neste Corporation). The holdings in Finnair, Fortum and Neste are considered to be of strategic interest for central government.

The state also has indirect holdings in listed companies through its investment company Solidium Oy. Solidium's portfolio had a market value of around EUR 8 billion at year-end 2019. An annual, sustained and stable dividend flow is significant for central government.

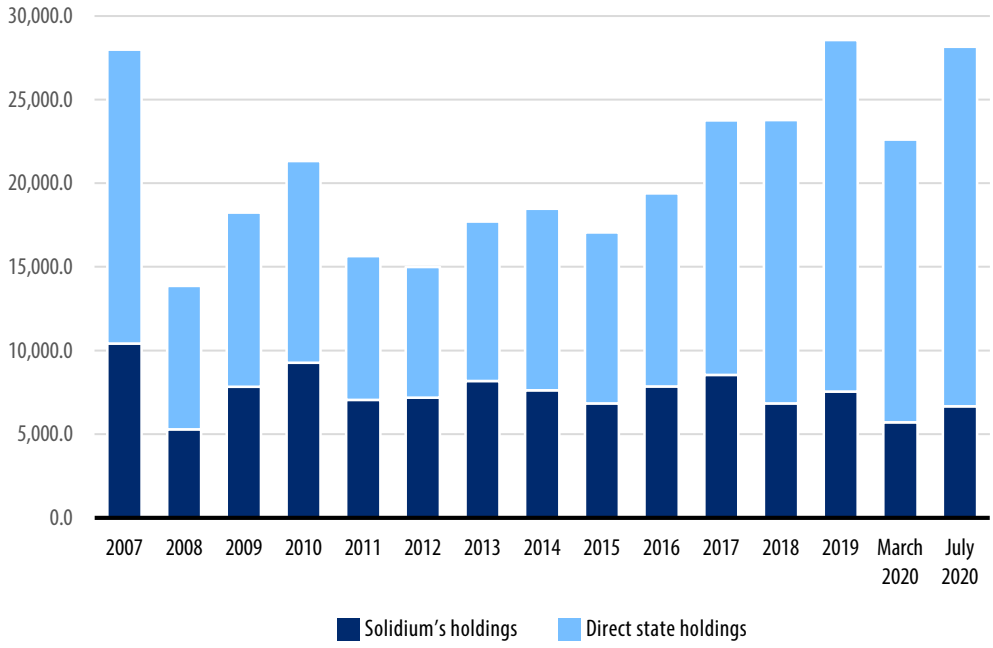
In 2016, the State Business Development Company (Vake Oy) was established alongside Solidium. In December 2018, the Government made a decision to transfer to Vake approximately 8.3% of the shares in Neste Corporation, 49.9% in Posti Group Corporation, 16.7% in Vapo Oy, 36.2% in Altia Corporation and the total shareholding in Nordic Morning Plc. At year-end 2019, the Vake balance sheet totalled around EUR 2.4 billion.

In February 2020, the Government announced that a climate fund would be set up on the basis of Vake. A decision was made in conjunction with the September budget session to transfer the steering of Vake to the Ministry of Economic Affairs and Employment and to retain the ownership of Neste Corporation included in Vake's balance sheet in the Climate Fund (Ilmastorahasto Oy) to be established. However, the ownership steering concerning the entire shareholding in Neste Corporation will remain with the Prime Minister's Office. In addition, Vake's other shareholdings will be transferred back to the Prime Minister's Office and its ownership steering.

The value of state holdings in listed companies is exposed to a market risk. Over the past 13 years under review, the portfolio value has fluctuated significantly from year to year (Figure 4).[2] The massive market movements caused by the COVID-19 pandemic were also reflected in the state equity portfolio as increased volatility during spring 2020. The value of state shareholdings plummeted from more than EUR 30 billion to below EUR 20 billion due to the market turmoil triggered by the pandemic. During late spring and the summer, however, the value of the portfolio recovered to the levels seen at the beginning of the year.

2 A comparison between the years does not provide a direct indication of the price risk as it does not take the purchasing or selling of shares into account.

Figure 4. Changes in the value of state holdings in listed companies, EUR million



Source: Prime Minister's Office

3.4 Loan receivables of the Housing Fund of Finland

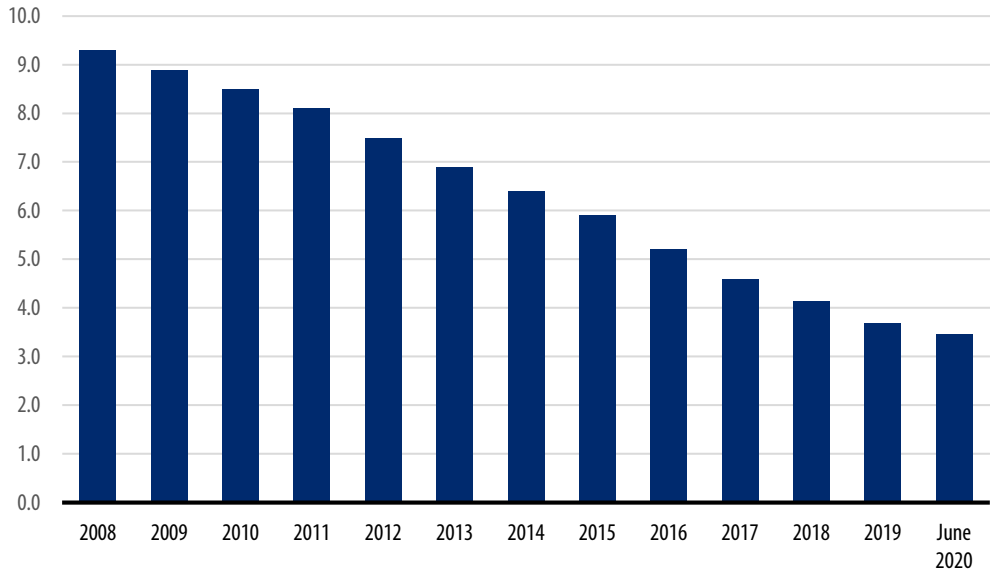
The loan receivables of the Housing Fund of Finland comprise Arava loans granted for state-subsidised housing financing. Most of these loans have been granted to rental housing and right-of-occupancy housing corporations. The maximum loan period for Arava loans is 45 years. No new loans have been granted since 2007, which is why the loan portfolio of the Housing Fund of Finland has shrunk significantly (Figure 5). State subsidies for housing financing are currently granted as interest subsidies and guarantees for loans issued by credit institutions, which are discussed in section 5.1.2.

At year-end 2019, the loan receivables of the Housing Fund of Finland totalled EUR 3.7 billion, while the guarantee portfolio amounted to EUR 15.3 billion, which means that the housing finance liabilities totalled EUR 19 billion. At the end of June 2020, the loan receivables totalled EUR 3.5 billion and the guarantee portfolio amounted to EUR 15.8 billion, with the housing finance liabilities totalling EUR 19.3 billion. From the perspective of credit risk, both direct and indirect financing liabilities leave the central

government in the same position.[3] In both cases, central government incurs a cost from a customer's insolvency if payments obtained by realising the collateral are not sufficient to cover the unpaid loans. Risk management of direct and indirect lending is often also interlinked, as a significant share of social housing stock operators have both direct and indirect state-subsidised financing.

There are several reasons for the credit risk associated with Arava loan receivables. Long loan periods and tail-end repayment programmes mean more risks, as the loans are not repaid at the rate at which the properties are exposed to wear and tear. The need for renovation financing will arise before an adequate proportion of the construction loans has been repaid. The highest external risks arising from the loan receivables are associated with areas suffering from depopulation where declining occupancy rates cause payment problems to rental housing corporations.

Figure 5. Development in loan receivables of the Housing Fund of Finland, EUR billion



Source: State Treasury

3 For a more detailed discussion of central government guarantee liabilities in housing financing, see section 5.1.2.

Of the loan receivables, 26% or around EUR 900 million are located in high-risk municipalities (Figure 6).[4] The risk content of the loan portfolio increases further as the population concentrates in a small number of growth centres.

The high loan-to-value ratio (85%–95%)[5] also increases the risk content of the Arava loan portfolio as there is no secure collateral margin in the financing. There has been a rapid decline in property values in areas affected by depopulation, which means that the properties held as collateral do not fully cover central government receivables in case of insolvencies.

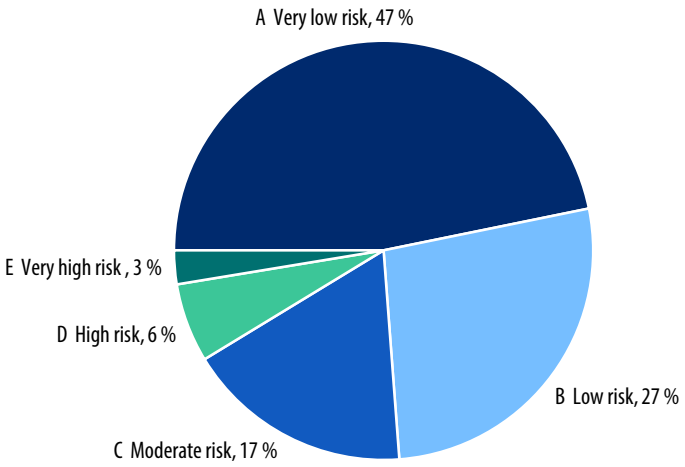
The risks associated with the loan portfolio are managed through measures including state-supported restructuring measures and financing arrangements in which the aim is to minimise losses by taking managed and systematic measures instead of initiating bankruptcy proceedings and forced sales of properties held as collateral. In late 2018, legislative amendments were passed to introduce more effective further measures for reducing the financial and loan portfolio risks of rental housing corporations in areas affected by depopulation. These legislative amendments increased the maximum amounts of restriction and demolition remissions of debt and reduced interest rates in loan groups where the interest rate level was high in comparison to the general interest rate environment. The terms of restructuring measures were also amended so that, going forward, restructuring of loan and real property portfolios can begin at an earlier stage, which promotes proactive risk management.

So far, the Arava loan portfolio has generated a relatively low amount of credit losses from bankruptcies and forced realisation of collateral. Losses from restriction and demolition remissions of debt associated with restructuring have averaged less than EUR 1.2 million a year in the 2010s. Towards the end of the decade, there was a clear rise in the amount of remissions, and in 2018, remissions totalled EUR 2.6 million and in 2019 EUR 3.1 million. This rise was caused by increased problems in areas experiencing depopulation as well as by the option allowed by the new legislation to carry out proactive risk management measures.

4 The State Treasury's risk classification model for municipalities takes into account the municipality's population projection, unemployment rate and tax revenue, vacancy rates of rental housing corporations and late payments. Municipal mergers have resulted in municipalities that extend over increasingly large geographical areas, and a municipality in a good risk class can also contain areas with a high risk level.

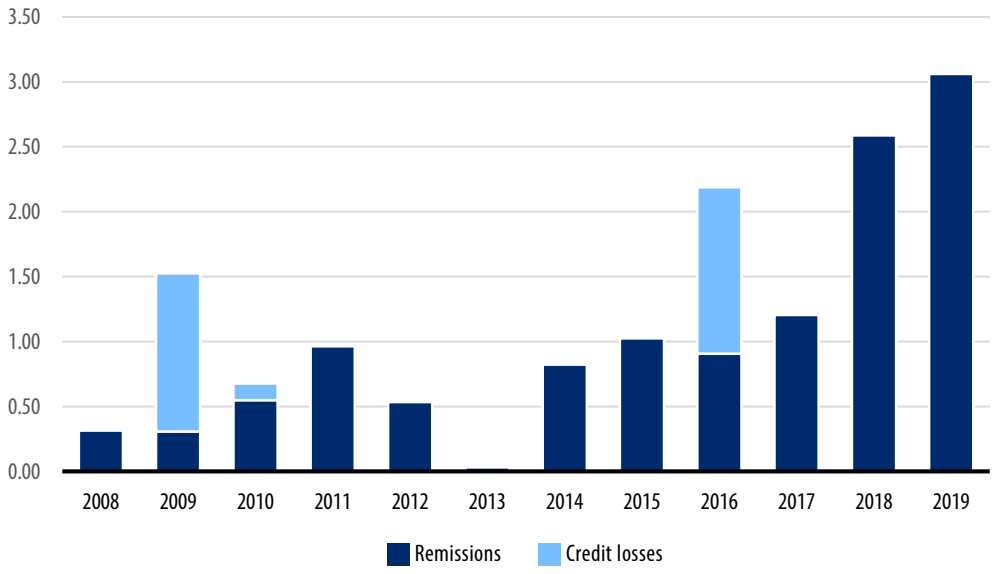
5 The loan-to-value ratio of construction loans is 90%–95% of the approved building and site costs in rental housing and 85% in right-of-occupancy housing.

Figure 6. Distribution of loan receivables of the Housing Fund of Finland by municipality risk class 30 June 2020 (%)



Source: State Treasury

Figure 7. Credit losses and remissions related to Arava loan receivables in 2008–2019, EUR million



Source: State Treasury and 2019 annual accounts of the Housing Fund of Finland

3.5 Other loan receivables

In addition to financial aid granted through the European Financial Stability Facility (EFSF), the European Stability Mechanism (ESM) and the International Monetary Fund (IMF), Finland and other euro area Member States have also granted bilateral loans to Greece.[6] Within the framework of bilateral loan arrangements, Finland has loan receivables from Greece with a nominal value of around EUR 1 billion.

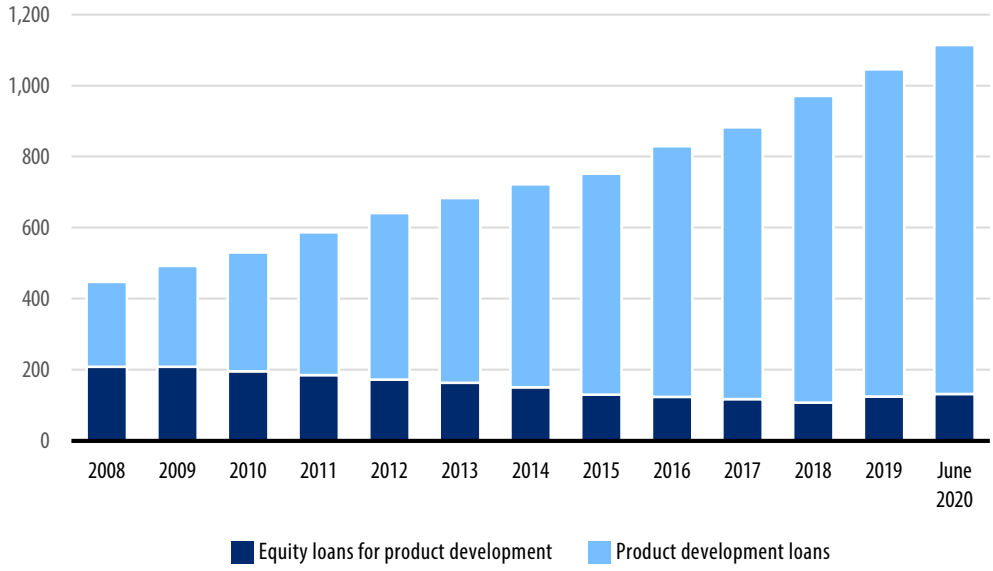
Central government loan receivables associated with product development loans granted by Business Finland totalled EUR 1,046 million at year-end 2019. The loan portfolio has grown substantially over the past ten years, with the annual increase averaging 8%. The loan portfolio of Business Finland increased further in the first half of 2020 and totalled EUR 1,114 million at the end of June, up 6.5% on the end of 2019.

Most of the product development loans are provided as debt instruments. Following a break of several years, in 2018 Business Finland restarted the granting of equity loans, too.

Product development loans are risk loans, most of which are granted without collateral. Most of the financing goes to young growth-oriented companies that are only just launching their product development activities and have little or no revenue to cover their expenditure. General changes in economic trends are reflected rapidly in product development lending risks. Unpaid loans and bankruptcies increase rapidly during downturns and economic crises. The economic impacts of the coronavirus crisis can also be seen in the product development loan portfolio. In the first half of 2020, there was a clear increase in the number of new bankruptcies of companies provided with product development loans compared with the corresponding period in earlier years. In 2010–2019, January–June saw an average of 26 new bankruptcies, whereas in 2020 the figure was 42 over the corresponding period.

6 For more information (in Finnish and Swedish) about Finland's receivables and liabilities arising from the management of the euro area debt crisis, visit the Ministry of Finance website at https://vm.fi/kansainvaliset-rahoitusasiat/euroalueen-vakaus/suomen-vastuut.

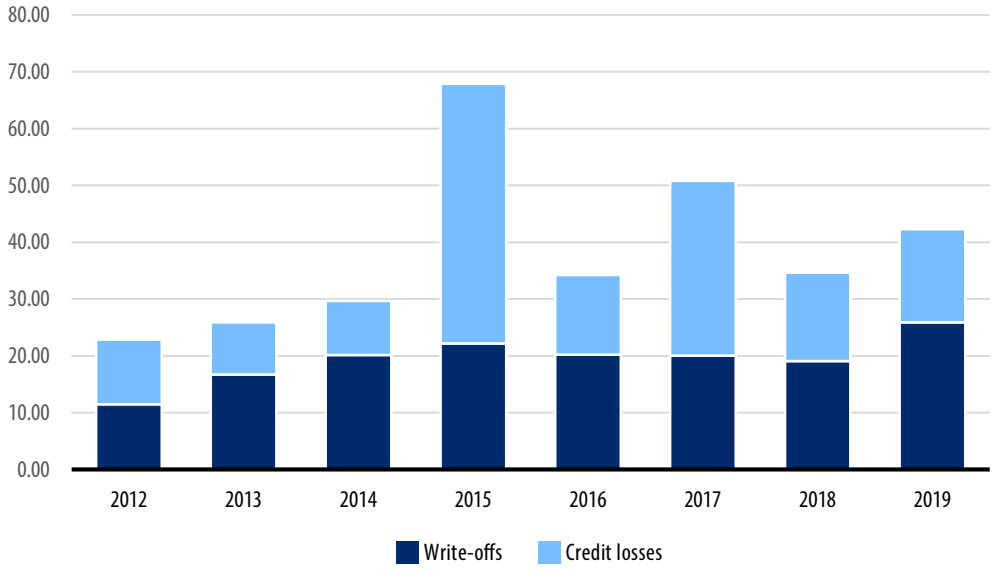
Figure 8. Business Finland's product development loan portfolio, EUR million



Source: State Treasury

In the 2010s, the credit losses incurred on product development loans granted by Business Finland amounted to EUR 23–67 million annually. Credit losses arise from decisions not to collect loans and from business insolvency.

Figure 9. Business Finland's credit losses on product development loans and debt write-offs, EUR million



Source: Business Finland

4 Direct financial liabilities of central government

4.1 Central government debt

4.1.1 Changes in central government debt

This section examines changes in central government debt on the basis of the concept used by the State Treasury for on-budget debt and off-budget entities. Within the framework of Ministry of Finance guidelines, the management of this debt is the responsibility of the State Treasury, and indicators describing the debt structure are comprehensively available.[7]

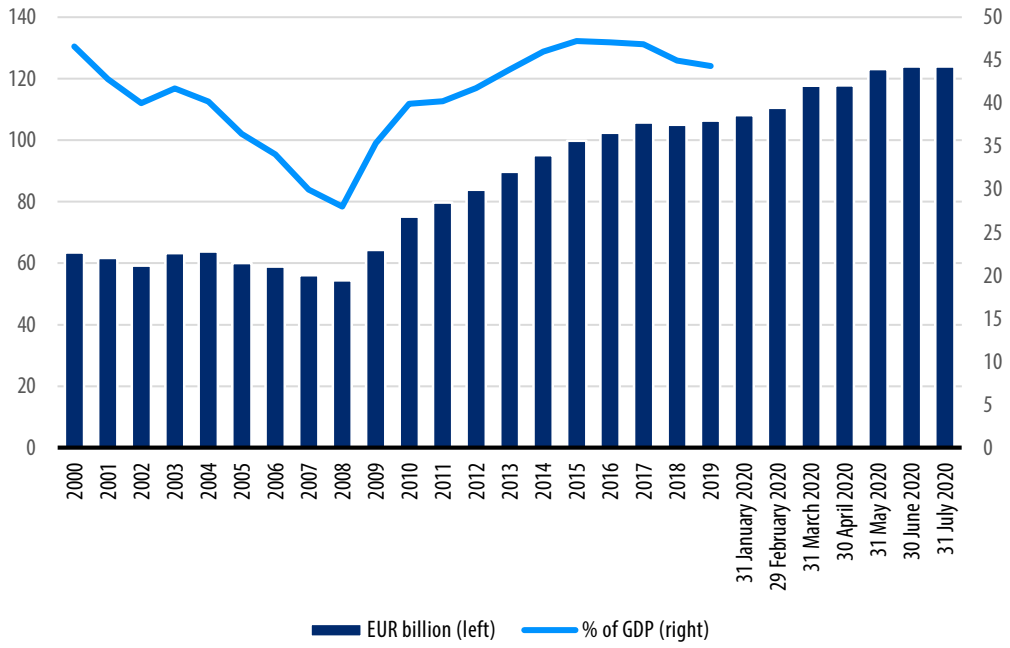
Central government debt has grown substantially in recent years (Figure 10). While totalling approximately EUR 54 billion in 2008, by the end of last year it was as high as around EUR 106 billion. Central government debt also increased substantially relative to the GDP. The central government debt-to-GDP ratio fell below 30% just before the financial crisis, only to start growing rapidly during the post-crisis years of weak economic growth and amounting to just over 44% at the end of last year.

The COVID-19 crisis rapidly changed the economic outlook and the need for central government net borrowing. The uncertainty caused by the crisis as well as the increase in financing needs resulted in a rapid increase in central government debt during the spring and summer. At the end of September 2020, central government debt totalled just over EUR 120 billion.

The coronavirus crisis and its adverse effects on the economy will be reflected in the development of central government debt in the years ahead, too. The 2021 budget proposal is almost EUR 11 billion in deficit, with central government debt estimated to increase to around EUR 136 billion in 2021.

7 Another commonly used debt concept is general government debt as calculated and published by Statistics Finland. For more information on the differences between these two debt concepts, visit e.g. the State Treasury web pages on central government debt at https://www.treasuryfinland.fi/statistics/statistics-on-central-government-debt.

Figure 10. Changes in central government debt

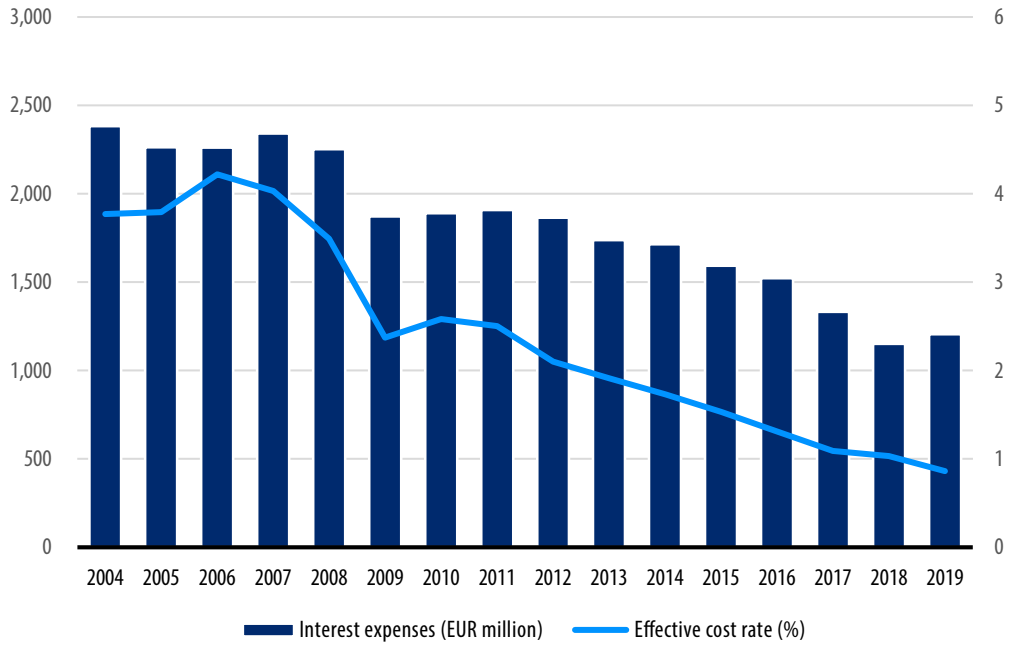


Source: State Treasury

Despite the substantial increase in central government debt, there has been no growth in interest expenditure (Figure 11). On the contrary, the interest expenditure on central government debt has been nearly halved as compared to 2008, even though the amount of debt has doubled during the same period. This is explained by the drop in market rates to historically low figures, which has considerably reduced the effective debt servicing expenses.[8] However, the long downtrend in interest expenses ended last year when interest expenses increased by EUR 54 million compared with 2018.

8 Effective costs refer to the average of the debt servicing costs weighted by the nominal value of the debt.

Figure 11. On-budget interest expenses and effective interest costs of central government debt



Source: State Treasury

4.1.2 Risks arising from and risk position of central government debt

Central government debt involves many types of risks[9], of which financing risks and market risks are discussed in detail in this section. Financing risks include risks associated with the availability or terms of financing. Exceptional market conditions or the downgrading of the central government's credit rating may cause debt servicing expenses to increase or, ultimately, lead to insolvency.

The financing risk is divided into liquidity risk and refinancing risk. Liquidity risk means a situation where the sources of financing available to central government are insufficient to allow the central government to cost-effectively meet its payment obligations in the next 12 months. Refinancing risk concerns a longer-term risk associated with the acquisition of new funding.

9 For more information about risks arising from central government debt and their management, visit https://www.treasuryfinland.fi/.

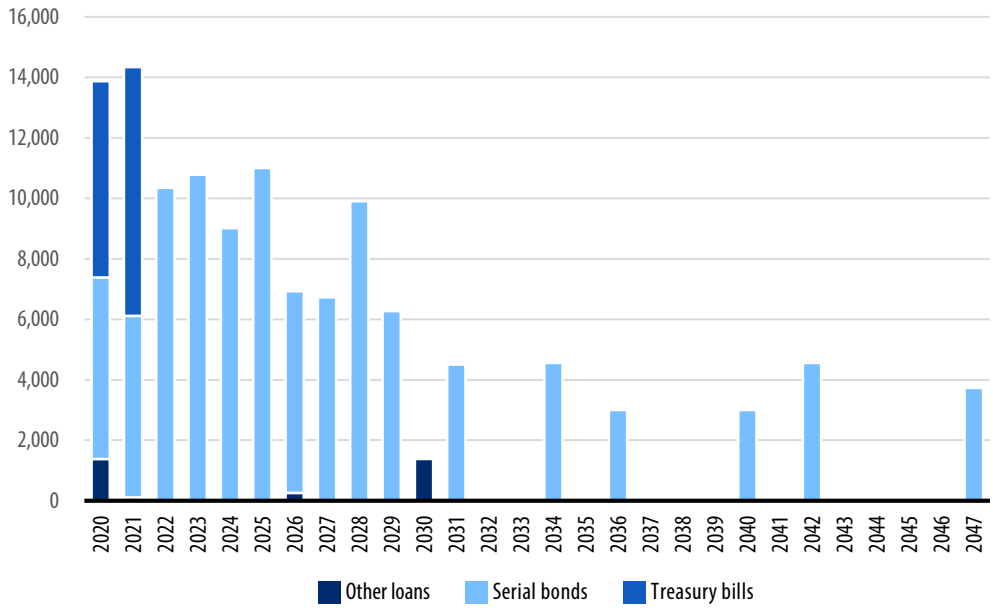
Market risk refers to the interest and exchange rate risk arising from a debt. Interest rate risk means deviation from the expected long-term costs arising from central government debt as a result of interest rate changes. Interest risk may be caused by changes in the general euro area interest levels or the Finland-specific risk premium. Central government also issues debt in foreign currencies, but exchange rate risks are hedged through derivative contracts.

The refinancing risk of central government debt is managed by maintaining a sufficiently broad range of funding channels and by ensuring that the loan repayments are equally distributed between years. For information about the amortisation of central government debt, see Figure 12. The coronavirus crisis can be seen in the figure as abnormally large amortisations of central government debt. A cash buffer was created by central government in the spring by, in particular, utilising short-term funding by issuing large amounts of treasury bills.

Figure 13 provides information on changes in the interest rate sensitivity of central government debt (measured using the average refixing year). This indicator gives the average time (in years) during which the debt portfolio is repriced.[10] The figure shows that, after 2012, the average repricing interval has been extended from three to five years. This can be interpreted to mean that the interest rate risk associated with central government debt has been reduced. Figure 13 also shows the average maturity of the debt; this figure describes the average period after which the loans must be refinanced. The average loan maturity has also increased, contributing to reducing the refinancing risk of central government debt.

10 The average repricing interval of variable rate loans is determined by the following interest rate review date, whereas for fixed rate loans this interval is determined by the maturity.

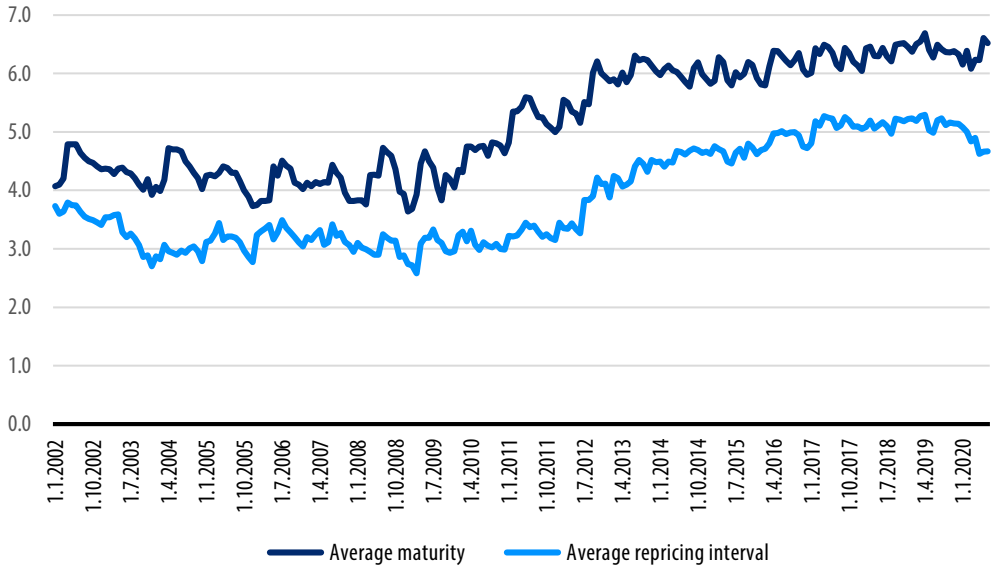
Figure 12. Amortisations of central government debt, EUR million[11]



Source: State Treasury, situation on 31 August 2020

11 Serial bonds are fixed-rate bullet loans on which the coupon interest is paid once a year. Treasury bills are discount-based debt instruments with maturity of a maximum of one year. Other loans include bonds issued under the EMTN programme.

Figure 13. Development of central government debt interest rate risk position, average maturity and average repricing interval



Source: State Treasury

The interest rate risk associated with central government debt can also be illustrated using the concept of budgetary risk; this involves examining the change in interest expenses when the general interest rate level or Finland's risk premium rises permanently by one percentage point. An increase in the general interest level would increase the central government's forecasted interest expenses when the current debt is repriced so that in 2021, for example, the annual interest expenses would be around EUR 536 million higher than projected (Figure 14).[12] Similarly, a one percentage point increase in the risk premium of Finland's central government debt would increase the interest expenses by EUR 307 million.[13]

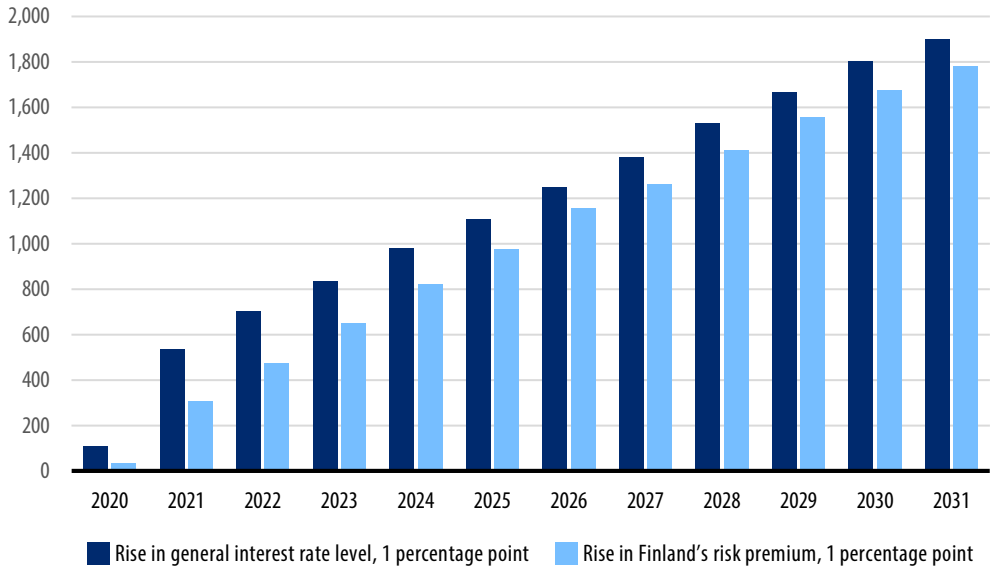
The difference in the expenses increase results from the separation of the interest rate risk and the refinancing risk by means of derivatives. Interest rate swaps allow the State Treasury to concentrate on market demand and refinancing risk when issuing bonds, and to look at the interest rate risk perspectives separately. In other words, by using interest rate swaps, the State Treasury is able to manage the interest rate risk profile of the central

12 Any increases in the amount of debt are not considered in the graph.

13 The amount of central government debt used in the calculations is based on the situation on 31 August 2020. Net borrowing is assumed to total EUR 17.7 billion in 2020. Deficit in 2021 is assumed to total EUR 10.8 billion in accordance with the budget proposal. The deficit figures for 2022–2024 are based on forecasts by the Economics Department of the Ministry of Finance. From 2024 onwards, the deficit is projected to be at the same level as in 2024.

government bond portfolio separately from the financing risk. As shown in Figure 13, the average maturity, which describes the financing risk, is longer than the average repricing interval describing the interest rate risk.

Figure 14. Changes in net interest expenditure when interest rates rise by one percentage point, EUR million



Source: State Treasury

The different natures of these risks is an argument in favour of preparing separately for increases in the general interest rate level and in Finland's risk premium. The general interest level usually goes up during an economic upturn in Europe, which also gives a boost to the Finnish economy as a matter of course. This increases tax revenue and allows fiscal space for central government. On the other hand, a rise in the risk premium of a country usually results from a situation where country-specific factors have affected the country's macroeconomic status and financial position adversely, leaving little fiscal space. In terms of budget risk, it is justified to prepare for the refinancing risk and, consequently, for a risk premium increase by loan maturity that exceeds the average refixing.

4.2 Contractual liabilities associated with the Public-Private Partnership (PPP) model

In the Public-Private Partnership (PPP) model, a service provider (project company) funds, plans, carries out and maintains a project under a contract for 15 to 25 years, while the public sector actor has the role of customer and project supervisor.

The PPP model has been used in contexts including road projects (Table 2). In these cases, Parliament grants the Finnish Transport Infrastructure Agency a budget authority to carry out a PPP project. The authority includes the costs of the actual road construction and the service fee for road maintenance payable to the road infrastructure company. For this purpose, Parliament decides annually on the appropriations needed to fulfil the contract.

The risks involved in a PPP model include, in addition to the financial risk, any increase in building costs, delays and quality issues in construction work, a quality and cost risk related to maintenance, as well as a counterparty risk associated with the project company. Any termination of the contract may also involve substantial termination costs.

The PPP model ties up central government funds for decades, making it more difficult for future Parliaments to launch new projects. Due to the partial payments involved in the PPP model, there also is a risk that investments exceed the level that would be appropriate in terms of sustainable general government finances.

Table 2. PPP projects in the central government budget, EUR million

PPP projects (budget item 31.10.79)	Authority	2008–2020	2021–2024	2025–2028	2029–2040	2008–2040
Road E18 Muurla-Lohja	700.0	473.1	105.2	102.0	19.7	700.0
Road E18 Muurla-Lohja service level increase	30.0	1.0	8.0	13.0	8.0	30.0
Road E18 Koskenkylä-Kotka	650.0	354.8	200.0	95.2	0.0	650.0
Road E18 Hamina-Vaalimaa	550.0	120.0	120.0	125.5	184.5	550.0
Fixed link to Hailuoto	147.0	10.0	25.0	24.0	88.0	147.0
Total	**2,077.0**	**958.9**	**458.2**	**359.7**	**300.2**	**2,077.0**

The timeline of the fixed link to Hailuoto is not yet final.

4.3 Other multi-annual central government liabilities

Central government also has other multi-annual contractual liabilities under which it has a direct statutory payment obligation. By far the largest of these multi-annual liabilities in on-budget finances are central government pension liabilities.

Pension liabilities mean the amount required to cover the costs of pension benefits accumulated to date. Central government pension liabilities indicate the current value of central government pension commitment to former and present employees covered by the central government pension system. Central government pension liabilities totalled EUR 92.7 billion at year-end 2019.

Through the State Pension Fund (VER) (see also section 3.2), central government has made arrangements to prepare for pension payments in the coming years and to even out annual pension expenditure. At year-end 2019, the ratio between the market value of the VER investment portfolio and the imputed central government pension liabilities was about 22%.

The funding base of central government pension expenditure involves risks associated with the prospect that the sum of wages and salaries on the one hand and the investment assets and returns on investment on the other will not develop as expected. The development of pension expenditure also involves uncertainties. While a decrease in the sum of wages and salaries would weaken VER's income base and reduce the assets available for investment, from the central government perspective it would cut direct labour costs and curb the growth of pension liabilities.

Other multi-annual liabilities include the need for appropriations required by budget authorities granted (EUR 10.1 billion in 2019). The other multi-annual liabilities of off-budget entities and unincorporated state enterprises are relatively small, totalling EUR 2.9 billion at year-end 2019.

5 Contingent financial liabilities of central government

The first section of this chapter focuses on explicit contingent liabilities, which involve a legal obligation for central government. These include government guarantees, callable capital in international financial institutions, climate liabilities and nuclear liability. In the later sections, the chapter discusses implicit contingent liabilities, which may put the central government under an obligation because of societal or political factors. These include implicit liabilities relating to the banking sector and local government as well as contingent liabilities associated with state enterprises and environmental and chemical safety.

5.1 Central government guarantees

Central government guarantees[14] in effect totalled EUR 60.2 billion at year-end 2019, representing growth of EUR 3.6 billion year on year (Figure 15). At the end of June 2020, the amount of central government guarantees in effect was EUR 61.1 billion. The portfolio of guarantee liabilities has grown significantly throughout the 2010s, and the uptrend continues. In 2010, the guarantee portfolio was EUR 23.1 billion.

The largest liabilities in effect are associated with Finnvera's operations (EUR 32.6 billion), housing finance (EUR 15.3 billion) and the management of international financial crises (EFSF EUR 7.0 billion). In 2019, the largest increase in guarantees in euro terms was seen in guarantees associated with Finnvera's operations, which grew by around EUR 2.2 billion (Figure 15 and Appendix 2). The housing financing guarantee portfolio increased by EUR 0.8 billion and the student loan guarantee portfolio by EUR 0.6 billion.

The maximum amount of central government guarantees available was EUR 106.5 billion at year-end 2019. The maximum is the maximum amount set out in the law or authorised by Parliament. For the guarantee authorities given in the Budget annually, the

14 Central government guarantees mean legal commitments by central government to assume liability for the debt of another party. Guarantees also include legal commitments to cover losses arising from a specific activity.

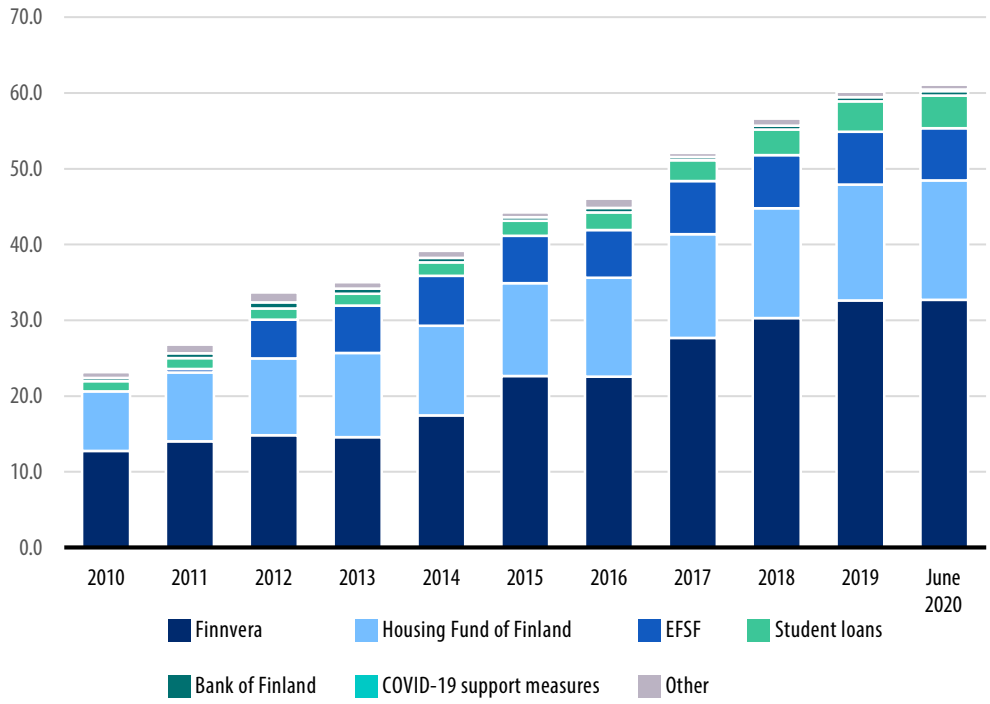
maximum is the amount of guarantees in effect plus the amount of guarantees granted but not yet used.

The maximum amount of central government guarantees available increased considerably – by EUR 27.4 billion – during the spring and totalled EUR 133.9 billion at the end of June 2020. This increase was mainly due to increases in the maximum amounts of export credit guarantees and funding as well as domestic financing authorisations of Finnvera. Support measures relating to the coronavirus crisis also increased the available maximum amount by EUR 2.9 billion.[15] The amount of guarantee liabilities in effect developed considerably more moderately during the spring, being up by just over EUR 800 million.

The following section provides a more detailed description of the most important central government guarantees in financial terms and the risks associated with them.

15 Due to the coronavirus crisis, central government guarantees have been granted for European Commission funding (the SURE support instrument), for the European Investment Bank (the EU COVID-19 guarantee fund), for domestic shipping and aviation companies, and for the Employment Fund. The figures exclude the EU recovery fund.

Figure 15. Development in the amount of central government guarantees in effect, EUR billion



Source: State Treasury

The guarantee liabilities associated with Finnvera consist of 1) liabilities associated with export credit guarantee and special guarantee operations, 2) the domestic liability portfolio, and 3) guarantees for funding. The liabilities in effect (used and unused) have been included in the guarantee and liability amounts related to export credit guarantee and special guarantee operations. The statutory liability amount includes liabilities in effect and one half of the guarantees offered, using the exchange rate of the date on which the decision was made. The risk arising from repayments of export credits granted by Finnish Export Credit Ltd is covered by an export credit guarantee granted by the mother company, Finnvera. Finnvera's funding within the framework of the EMTN loan programme has a central government guarantee. To the extent that the loan guaranteed by central government has been used to finance export credits, central government's liability for export credit guarantees and government guarantees for funding is not doubled, but they could be realised as a result of various factors and at different times. The contingent liabilities reported in this review are consistent with the figures in central government final accounts.

COVID-19 support measures comprise central government guarantees for European Commission funding (the SURE support instrument), for the European Investment Bank (the EU COVID-19 guarantee fund), for domestic shipping and aviation companies, and for the Employment Fund.

5.1.1 Export financing by Finnvera

Three types of public export financing instruments are used in Finland: government export credit guarantees, interest equalisation, and export and ship credit. Export financing is provided through Finnvera Plc, a special financing company fully owned by

the State of Finland, and Finnish Export Credit Ltd, a fully-owned subsidiary of Finnvera. Finnvera also provides financing to SMEs in Finland.[16]

Central government grants authorisations as a means of regulating the scope of public export financing activities. The export financing authorisations have been increased on several occasions over the past few years. At the end of June 2020, the authorisations concerning the maximum liabilities for export financing were:

i) export credit guarantees granted by Finnvera and hedging arrangements: EUR 38 billion;

ii) export and ship credits of Finnish Export Credit: EUR 33 billion;

iii) interest equalisation authorisation: EUR 33 billion;

iv) authorisation for special risk-taking: EUR 5 billion;

v) maximum authorisation for the government guarantee of Finnvera's funding programme: EUR 20 billion; and

vi) maximum authorisation for a potential government credit facility for Finnvera: EUR 3 billion.

Due to the increased authorisations, total central government liabilities for export financing have grown substantially over the past few years, as shown in Figure 15 and Appendix 2.

In particular, financing agreements have been concluded on ships ordered by shipping companies to be completed in the future, the guarantees and offers for which will only be drawn down several years later. Consequently, the amount of credit drawn down, which could result in credit losses, is less than the gross amount of the liabilities. At year-end 2019, the amount of export credit and special guarantee liabilities was EUR 25.5 billion, while the amount of liabilities drawn down was EUR 11.4 billion.

A key risk arising from Finnvera's export financing is related to credit risk. In this respect, a key role is played by diversification of the liability portfolio, or the extent to which the risks in the portfolio concentrate in certain sectors, geographic areas and customers.

As seen in Figures 16–18, export financing operations are highly concentrated. The shipping industry accounted for around 54% of the total liabilities at year-end 2019

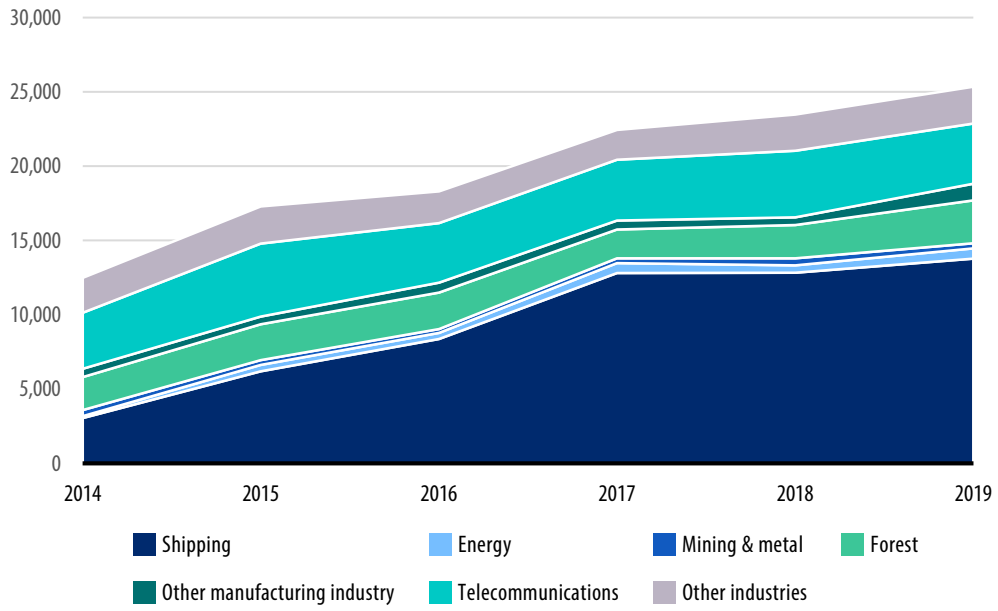
16 Liabilities for domestic SME financing have not increased in step with those relating to export financing. The domestic loan and guarantee portfolio totalled EUR 1.9 billion at year-end 2019. In the first months of 2020, however, the amount of domestic liabilities has increased quite strongly, totalling EUR 2.4 billion on 30 June 2020.

(Figure 16). Sectoral concentration has also increased in recent years. In 2014, the share of the shipping industry in the total liabilities was still below 25%.

A regional analysis shows that the concentration of total liabilities has also increased in recent years (Figure 17). In 2019, clearly the largest share of the export credit guarantee liability portfolio, 50%, was related to the United States, while Germany accounted for 11%. In 2014, the United States' share was equal to that of Germany and Brazil at 14%.

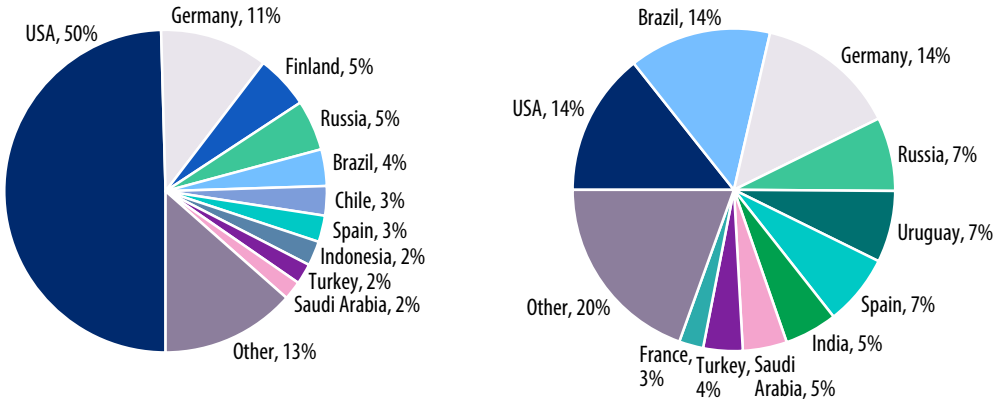
Export credit guarantee liabilities are also associated with significant risks arising from customer concentration (Figure 18). At year-end 2019, the three largest recipients of buyer financing accounted for 49% of the total export guarantee liabilities, the 10 largest ones accounted for 66%, while the top 20 accounted for 78%. The customer concentration risks have increased clearly compared to 2014, although the share of the largest customers of the total export credit guarantee liabilities has decreased over the past three years.

Figure 16. Sectoral distribution of export credit guarantees, EUR million



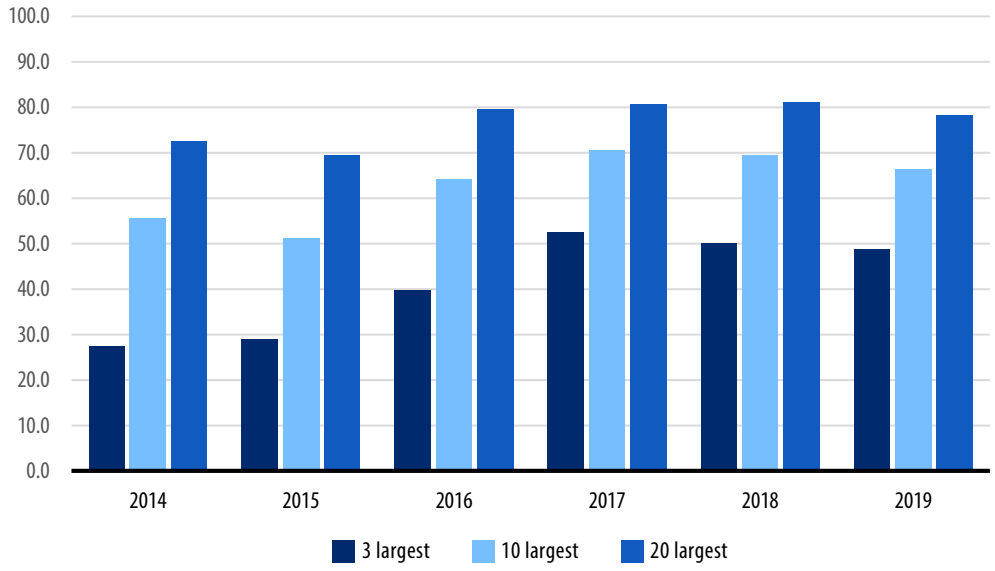
Source: Finnvera

Figure 17. Export credit guarantees by country, %



Source: Finnvera

Figure 18. Customer concentrations of export credit guarantees, %



Source: Finnvera

The risks associated with the concentration of sectors, countries and customers are partly overlapping. However, more detailed information on the degree of the risk overlap is not available.

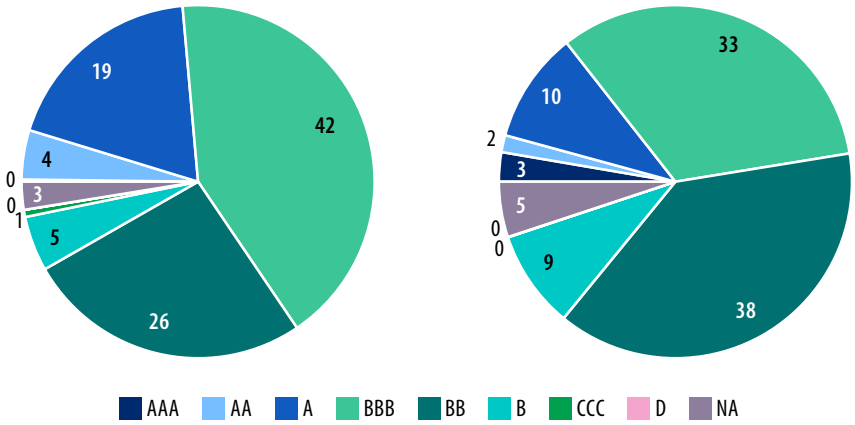
Based on changes in the risk classification distribution, the risk associated with the portfolio of export credit guarantee liabilities had shrunk compared to the situation in

2014 (Figure 19). In 2014, approximately 47% of the liabilities in the portfolio belonged to risk class BBB or higher. These classes describe the so-called investment grade level. In 2019, the corresponding figure was 66%.

In addition to idiosyncratic shocks, concentration risks also expose export financing operations and risk management to a model risk. A model risk arises if realisations of various liabilities correlate with each other more strongly than expected. For example, over-capacity or a significant drop in demand in the shipping market may result in the realisation of larger liabilities than expected.

The coronavirus crisis has revealed in a concrete manner the risks relating to the concentrated structure of Finnish export financing. The COVID-19 pandemic has had a major impact on the cruise industry, in practice fully suspending cruise operations for a while and significantly weakening the outlook for the near future. This is why, in its Half-Year Report published in August, Finnvera reported an increase of EUR 475 million in expected losses associated with export credit guarantees and special guarantees.

Figure 19. Risk classification distribution of export credit guarantees, %[17]



Source: Finnvera

Export financing is also associated with liquidity and market risks. To ensure competitive export financing, Finnish Export Credit commits to pre-agreed terms of credit (incl. Commercial Interest Reference Rates, CIRR) over a long delivery time.[18]. At the same time,

17 Class AAA describes the lowest risk, whereas class D means that the risk is certain to materialise. Class NA contains risks with no risk classification, including sovereignty risks related to states.

18 The CIRR interest is based on the return on long-term government bonds, plus a fixed margin.

the competitive situation may make it necessary to offer the customer options with respect to loan withdrawal, terms of interest or currency.

Fixed-rate export credits carry an interest rate risk, which is transferred to central government by means of interest equalisation agreements. If the interest rate is set at a very low level in accordance with the OECD export credit agreement for competitive reasons, it may be impossible for central government to fully hedge against the interest rate risk without incurring losses, depending on the terms and conditions of the transaction and the market conditions.

Any losses from Finnvera's export financing are covered through two reserve funds, which had assets totalling EUR 1.46 billion on 31 December 2019. Losses from export credit guarantee activities are primarily covered from the reserve for export credit guarantee and special guarantee operations on Finnvera's balance sheet, which at year-end 2019 amounted to EUR 773 million. Secondarily, losses are covered by the off-budget State Guarantee Fund, which was worth approximately EUR 686 million at year-end 2019.[19] If the two reserve funds turn out to be insufficient, Finnvera's losses are covered from central government budget.

Risks associated with individual counterparties and concentrations are partially hedged against through reinsurance. At year-end 2019, the maximum compensation amount of Finnvera's reinsurance contracts in effect totalled approximately EUR 1.5 billion, or around 13% of the liabilities taken out.

5.1.2 Housing Fund of Finland

Central government currently has 11 off-budget funds. In terms of liabilities, the Housing Fund of Finland accounts for the bulk of these funds' guarantee portfolio.[20]

The guarantees held by the Housing Fund comprise the government guarantees for loans granted for housing construction, renovation and purchases. Most of the loans granted for construction and renovation go to rental housing and right-of-occupancy corporations. The guarantee portfolio for private households comprises limited state guarantees for housing loans granted by financial institutions.

19 Provisions are also made for losses from domestic financing activities. In accordance with its credit and guarantee loss undertaking, the state has pledged to cover 50% of the losses arising from SME and midcap financing from 1 January 2018. Any losses beyond this government compensation will be covered from Finnvera's domestic operations reserve, which held EUR 266 million at year-end 2019.

20 In addition to the Housing Fund of Finland, central government guarantees are also held by the Development Fund for Agriculture and Forestry, the National Emergency Supply Fund and the State Guarantee Fund.

In addition to guarantees, the contingent liabilities of the National Housing Fund also include the interest subsidy payments of interest subsidy loans granted for the housing sector. Most of the loans with a central government deficiency guarantee granted to corporations for housing construction and renovation are interest subsidy loans. Loans intended for first time home buyers (ASP loans) account for the majority of the interest subsidy loans granted to private households. Grants for housing construction, housing stock and financial restructuring of rental housing corporations are also paid out by the Housing Fund of Finland.

Guarantee payments based on guarantee liabilities and the expenses associated with securing loan receivables are paid by the Housing Fund of Finland. If necessary, the Fund also uses its assets for its own loan amortisation and interest payments. The Housing Fund does not currently have any debts.

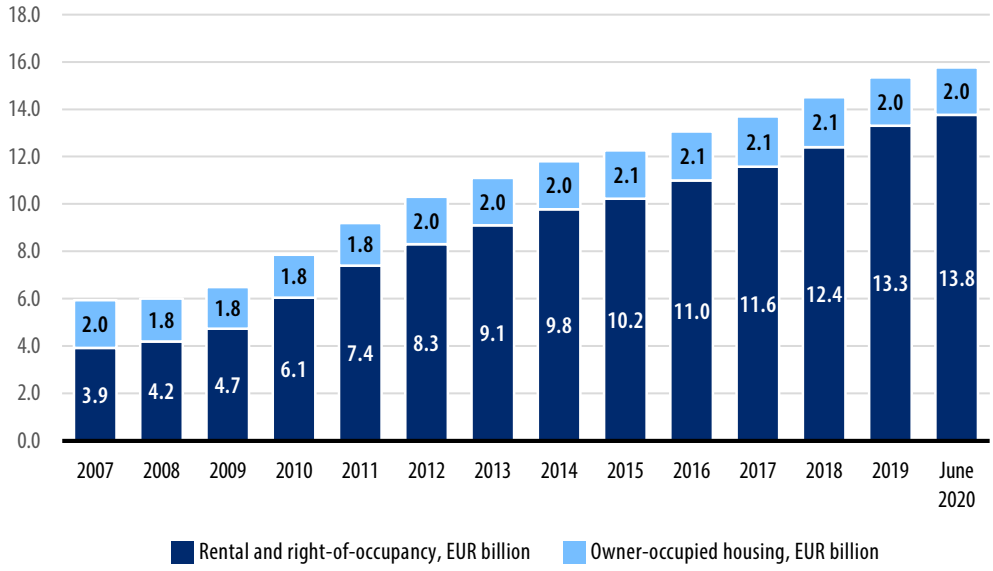
Long-term state-subsidised Arava loans granted to rental housing and right-of-occupancy corporations before 2008 account for most of the receivables in the balance sheet of the Housing Fund of Finland.[21] The Fund's revenue consists of Arava loan repayments and interests, and payments associated with various central government guarantees.

The housing financing guarantee portfolio has increased substantially over the past ten years (Figure 20). In 2009, the guarantee portfolio totalled EUR 6.5 billion. By the end of 2019, it had grown to EUR 15.3 billion. Guarantees for corporate loans accounted for EUR 13.3 billion and state guarantees for housing loans taken out by private households for EUR 2 billion of this total. The guarantee portfolio totalled EUR 15.8 billion at the end of June 2020. This year's increase comprised guarantees for corporate loans, which increased to EUR 13.8 billion in total. The amount of guarantees for housing loans taken out by private individuals remained unchanged at EUR 2 billion.

The phasing out of direct housing financing by the state and substantial increases in guarantee authorisations after the start of the financial crisis boosted the guarantee portfolio for housing lending. Between EUR 1.5 and EUR 1.7 billion was spent on housing construction guarantee authorisations in the peak years 2009 and 2010. Since then in the 2010s, an average of EUR 1.1 billion has been allocated to guarantee authorisations each year. In 2018 and 2019, the use of authorisations increased to the level of EUR 1.5 billion. The guarantee authority given in the Budget annually for new rental and right-of-occupancy housing loans has totalled EUR 1.7 billion in recent years, with the same authority also granted for 2020.

21 The receivables of the Housing Fund of Finland are discussed separately in section 3.4.

Figure 20. Development in housing financing guarantee portfolio, EUR billion



Source: State Treasury

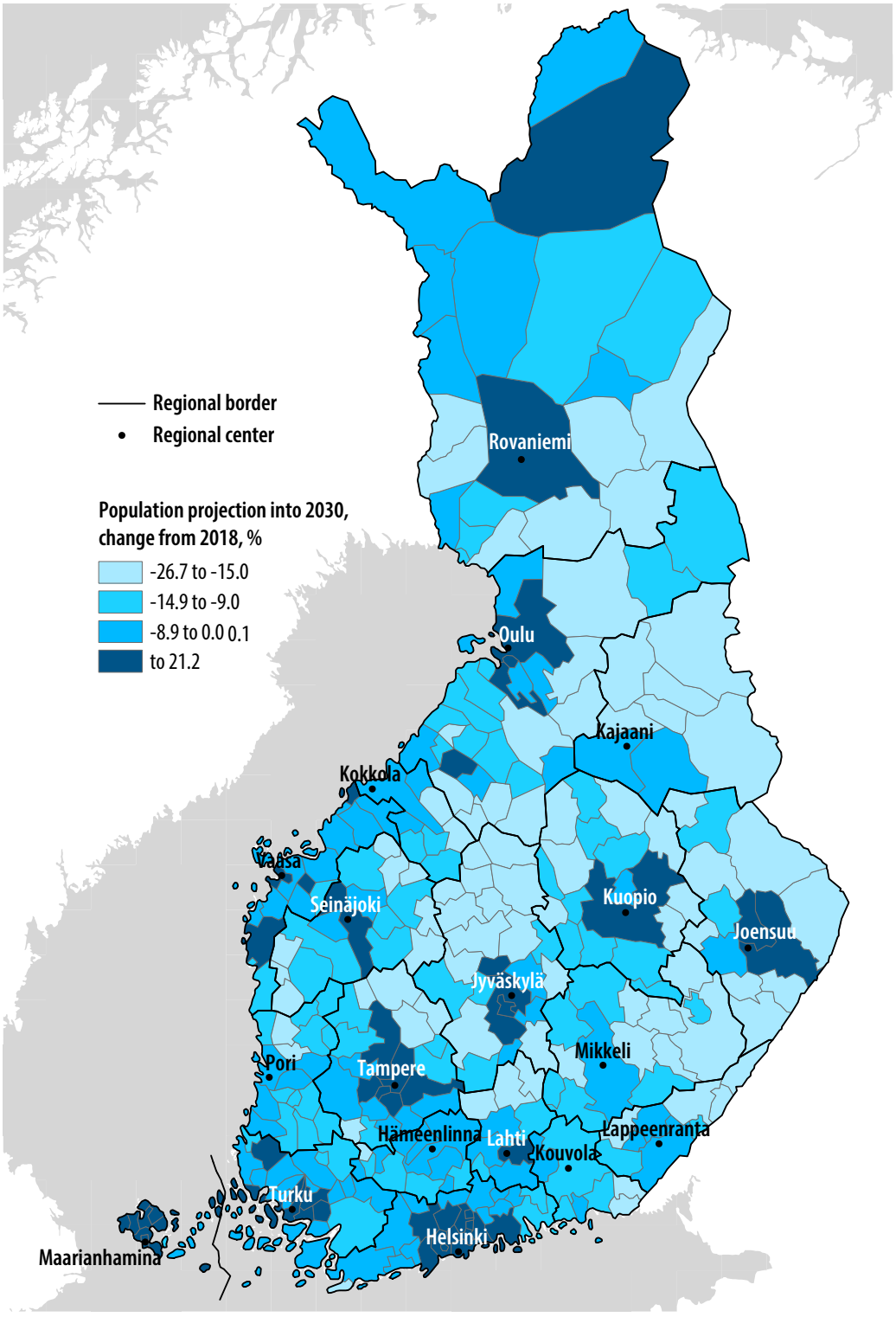
The guarantees granted for housing financing are deficiency guarantees in which the property or apartment in question serves as the first-demand guarantee. In case of insolvency, if the financial institution's loan receivables cannot be covered with the realisation price of the collateral, central government will pay the financial institution a statutory guarantee compensation. No guarantee compensations were paid in connection with corporate loans in 2019. An average of EUR 0.5 million in guarantee compensations for housing loans taken out by private households have been paid each year in the 2010s. In 2019, the guarantee payments totalled EUR 0.19 million.

No guarantee fees are charged for most of the housing loans. The guarantee fee income from guarantees for corporate loans totals EUR 0.3–1 million each year, while the figure for guarantees for private households is EUR 5–6 million.

As a rule, the deficiency guarantees for state housing financing involve intentional risk taking, as in housing construction loans lending accounts for 85%–95% of the construction costs and the loan periods may be as long as 45 years. With such terms, market-based financing would only be available with additional guarantees.

Areas affected by depopulation where rental housing corporations struggle financially due to declining occupancy rates constitute a growing credit risk in housing financing. Direct loans granted to high-risk areas total about EUR 0.9 billion, while the guarantee portfolio for these areas amount to around EUR 2.4 billion. This accounts for about 19.1% of the total liability portfolio for the financing of rental housing and right-of-occupancy corporations amounting to EUR 17.2 billion.

Figure 21. Population change projections for individual municipalities for 2018–2030



Source: Statistics Finland

The concentration of population has been an ongoing trend in Finland for many years, and it has been reflected in the declining occupancy rates and payment problems of rental housing corporations, especially in sparsely populated areas, small rural municipalities and minor industrial towns. In recent years, the concentration of population has focused on fewer and fewer centres, which predicts increasing risks for rental housing corporations in areas outside the growth centres.

Shown in Figure 21, the population projection prepared in 2019 indicates that, besides Helsinki region, population growth will focus on a handful of regional centres. Since population in growth centre areas is partly also clustered around the actual centres, any examination based on municipal boundaries does not give an entirely reliable picture of, for example, development in periphery areas merged with growing regional centres.

The risks of state-subsidised rental and right-of-occupancy housing financing are managed by the Housing Finance and Development Centre of Finland (ARA) and the State Treasury. In recent years, risk management has emphasised the importance of preventive plans and actions at the level of municipalities and corporate entities in which the municipality exercises control to ensure that the operators take into account the impacts of population development in the area when planning the housing stock. Restructuring measures for rental housing corporations laid down in special acts, the key ones of which are modification of loan terms, restriction and demolition remissions of debt, as well as rehabilitation and demolition grants, can be used to support risk management in social housing finance. The aim of restructuring measures is to minimise the central government's credit losses and to ensure the orderly continuation of a rental housing corporation's operation, where this has been assessed to be viable.

In risk management related to social housing finance, the fact that the restructuring measures specified in legislation, excluding rehabilitation grants, are primarily only suitable for direct lending has emerged as a challenge. In financing provided through a guarantee liability, the loan agreement is between a financial institution and a rental housing corporation. This makes it more challenging to undertake central government's risk management actions during the loans' life cycle than in direct financing, and central government is unable to participate in the debt arrangements.

Up till now, the credit and collateral risks have as a rule mainly concerned direct lending in housing finance, in other words the state subsidised Arava loan portfolio, and only a small number of compensation claims concerning guarantees for corporate loans have been received. The risks associated with these guarantee liabilities are increasing, however, and in the future the realisation of credit losses can also be anticipated in the portfolio of government guaranteed loans. In addition to the occupancy rate gaps in properties, the risk is also increased by the fact that housing loans come with back-loaded payment

schedules, and the largest repayments take place at a time when the buildings are often in need of renovation. Furthermore, the collateral and market values of properties located outside growth centres have also declined, and the trend can be anticipated to persist, which means that in insolvencies the collateral will not necessarily provide adequate cover for loan repayment.[22]

The operations of the Housing Fund of Finland are also associated with concentration risks. At the end of June 2020, the three largest customers accounted for 26.1%, the 10 largest customers for 44.1% and the 20 largest customers for 54% of the liabilities in the Fund's guarantee portfolio.[23]

The guarantee portfolio for the financing of right-of-occupancy corporations totalled EUR 3.1 billion at year-end 2019 and EUR 3.3 billion at the end of June 2020. The proportion of financing for right-of-occupancy housing in the guarantees for corporate loans has increased from 15.5% in 2010 to 23.5% in June 2020. On account of the restriction regulation, financing of right-of-occupancy housing involves collateral challenges, which make it more difficult to take out renovation loans and to realise the properties. A legislative project to develop Finnish legislation on right-of-occupancy housing is underway, proposing amendments to legislation that could speed up the release of loss-making right-of-occupancy buildings from usage and assignments restrictions by allowing the termination of remaining right-of-occupancy agreements in exceptional cases. The government proposal was submitted to Parliament in October 2020.

Most of the state-subsidised housing finance is interest-subsidised financing, in which the loan relationships are between the customers and financial institutions. The state pays interest subsidies for the part exceeding the self-financing share of the interest rate laid down in the law. In interest-subsidy loans, the self-financing share varies between 1.0% and 3.8%. Interest subsidies are paid for periods ranging from 10 to 24 years.

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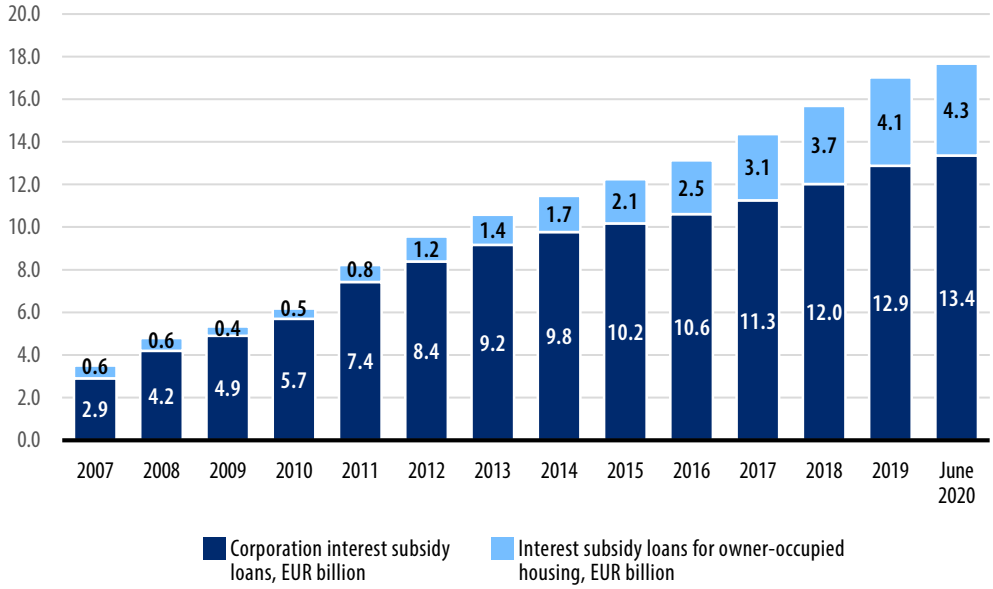
22 The declining trend was taken into account in a report completed in 2017 by the AAKE working group on development of housing stock and housing conditions outside growth centres. The report's proposals have been used as a basis for legislative amendments enabling more effective and proactive support and financing arrangement measures in areas affected by depopulation.
Issues of central government housing finance were also considered in the parliamentary Audit Committee's report on areas of development in housing policy (TrVM 3/2018 vp – Eduskunta). Parliament required that an eight-year housing policy development programme be prepared and submitted to Parliament as a government report. A working group is currently preparing the programme, and the aim is to submit the government report to Parliament by the end of 2020.

23 The percentage of customer concentrations has been calculated from the combined loan and guarantee portfolio of rental housing and right-of-occupancy corporations. This total amounted to EUR 17.2 billion on 30 June 2020.

The loan portfolio of interest-subsidised housing finance has grown from EUR 6.2 billion at year-end 2010 to EUR 17 billion in 2019 and EUR 17.7 billion at the end of June 2020 (see Figure 22). Because of the generally low interest rates, the interest subsidy payments for housing financing currently only amount to about EUR 3.1 million each year. In the long run, however, the substantial growth in interest-subsidised lending contains an interest rate risk for central government. A rise in interest rates and the low self-financing share of the interest rate paid in certain loan categories increase the risk that more interest-subsidy payments will have to be made. With an interest rate of 5% on an interest-subsidy loan, the annual interest-subsidy expenses would amount to approximately EUR 318 million.[24]

In recent years, growth in interest-subsidy housing loans has been particularly rapid in housing lending for private individuals who are first-time buyers (ASP loans). The loan portfolio has grown from EUR 346 million at year-end 2010 to EUR 4.1 billion at year-end 2019. At the end of June 2020, the ASP loan portfolio amounted to EUR 4.3 billion. The consistently large number of new ASP savings accounts opened during the past few years indicates that the interest-subsidised ASP loan portfolio will also continue to grow rapidly for the next few years.

Figure 22. Development in interest-subsidised loan portfolio in housing financing, EUR billion



Source: State Treasury

24 Simulation of interest-subsidy payments by the State Treasury.

5.1.3 Student loans

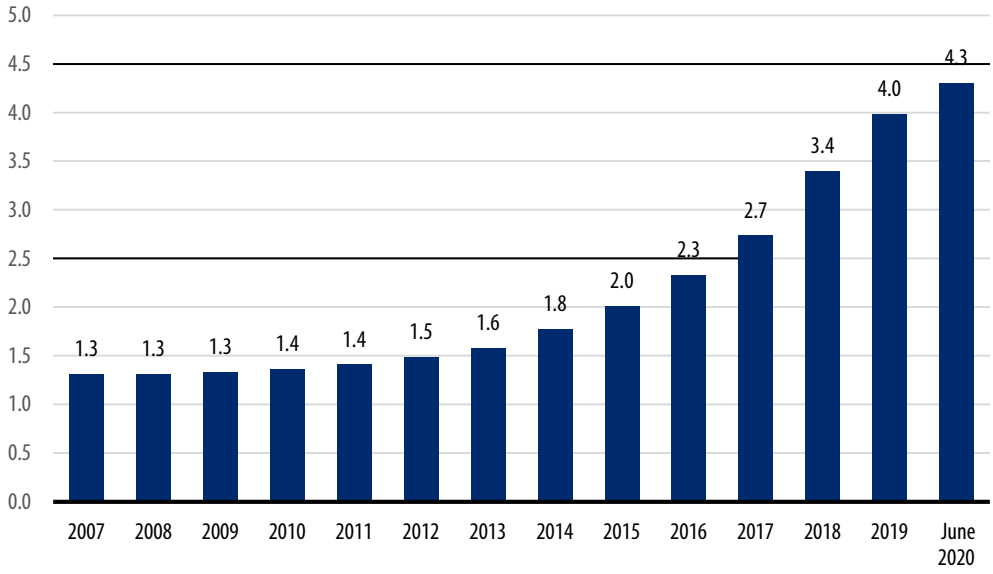
The state-guaranteed student loan portfolio has grown rapidly in recent years. This strong growth was underpinned by the student financial aid reform of 2017 which, among other things, increased the state guarantee amounts for student loans. The loan portfolio totalled EUR 4 billion at year-end 2019, whereas at the beginning of the 2010s the figure had been EUR 1.4 billion.

The strong growth in the student loan portfolio has so far not been seen as any growth in guarantee liability receivables related to student loans subject to recovery procedures. In fact, the amount of these receivables has decreased in recent years. The guarantee liability receivables were EUR 113.3 million in 2019, whereas the corresponding figures for 2018, 2017 and 2016 were EUR 115.9 million, EUR 122.0 million and EUR 131.7 million, respectively.

The loan amount remitted to the banks under the government guarantee liability, on the other hand, increased by a few million euros in recent years and amounted to EUR 19.5 million in 2019. The corresponding figure at year-end 2018 was EUR 16.5 million. The annual revenue from recovery procedures has been close to the annual guarantee liability expenditure. The revenue totalled EUR 15.5 million in 2019. In 2019, the payment exemptions and depreciations associated with recovery procedures were approximately EUR 9.6 million.

The student loan portfolio has no risk concentrations related to individual customer groups. At year-end 2019, a total of 457,860 persons had a student loan and the average loan amount was EUR 8,658.

Figure 23. Development in state guarantee portfolio for student loans, EUR billion



Source: Social Insurance Institution of Finland (Kela), State Treasury

5.1.4 European Financial Stability Facility (EFSF)

European Financial Stability Facility (EFSF) is a limited liability company founded by the euro area Member States in Luxembourg in 2010. It served as a temporary crisis resolution mechanism by providing conditional financial assistance to Member States facing financing problems. The funding of EFSF is guaranteed by the euro area Member States. The guarantee also covers interest and over-guarantee, and no guarantee fees have been charged for it.

The maximum amount of the EFSF funding programme approved in February 2012 remains at EUR 241 billion, and it has been used to provide loans to Greece, Ireland and Portugal. No new loans have been provided by EFSF since 2013 and no financial assistance has been provided since 2014. Finland's share of guarantees in the funds raised by EFSF, including interest and overguarantees, totalled approximately EUR 7 billion at year-end 2019.[25]

25 For more detailed information on Finland's liabilities arising from the management of the euro area debt crisis, see the Ministry of Finance Overview of Central Government Risks and Liabilities published in 2019 https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/162029/VM_6_2020.pdf?sequence=1.

If a country has been granted financial aid and it is unable to repay the loans provided by EFSF or make interest payments, Finland will have to make a contribution to EFSF in accordance with its share of the guarantees. EFSF's funding strategy also involves operational risks as well as counterparty and market risks which may, to some extent, materialise regardless of the beneficiary's ability to pay.

Finland requested and received collateral to limit the risk associated with the loans provided as part of the second EFSF programme for Greece[26]. The value of the collateral arrangement represents 40% of Finland's imputed share of the loan. The market value of the collateral for this programme concerning Greece totals around EUR 913 million.

5.1.5 Bank of Finland

The state guarantees granted to the Bank of Finland by the Government are part of the financial arrangements of the International Monetary Fund (IMF). No guarantee fees have been charged for the state guarantees. The guarantee liabilities connected with IMF's funding comprise the member's quota, the NAB[27] arrangement and a bilateral loan, which total around EUR 8.2 billion. Around EUR 570 million of the funding granted by Finland to the IMF was in use at year-end 2019.

Government guarantees associated with the member's quota and the NAB arrangement are issued in the IMF's accounting currency, the Special Drawing Right (SDR). Any compensation to the Bank of Finland on the basis of the state guarantee would be paid in euros. Consequently, the euro-denominated value of the guarantee depends on the EUR/SDR exchange rate effective at the time.

The IMF financing involves, first and foremost, credit risks associated with the beneficiary countries' solvency. To limit these credit risks, debt sustainability analyses are carried out before any financing is granted, various economic policy conditions are imposed on lending, and financing is offered in tranches, with disbursement tied to the implementation of an adjustment programme. The status of the IMF as a preferred creditor also reduces the credit risk associated with the financing granted by the institutions. During its history, the IMF has used debt write-downs mainly in the poorest member countries as part of more extensive debt relief programmes.

26 Finland also received collateral for the programme concerning Spain, but the programme was financed via the European Stability Mechanism (ESM).

27 New Arrangements to Borrow

5.1.6 Other guarantees

The central government guarantee for loans taken out by the Saint Petersburg Foundation ended in 2017 when central government paid the remaining liabilities related to this guarantee to the bank. Based on the original guarantee of EUR 13.5 million, central government's receivables for the guarantee compensations paid totalled EUR 12.5 million at the end of 2018. The foundation declared bankruptcy in 2017, but the bankruptcy proceedings remain unfinished (situation in October 2020).

In 2017, Parliament gave the Government authorisation to grant Terrafame Ltd an absolute government guarantee to a maximum amount of EUR 107 million. No counter collateral is required for this guarantee, which serves as a counter guarantee for environmental guarantees related to waste processing. Within this authorisation, the Government gave a EUR 68 million state guarantee as a counter guarantee for the bank guarantee obtained by Terrafame Ltd. Since then, collateral arrangements made in 2018 and 2019 have reduced central government guarantee liabilities both in terms of percentage and in terms of euros. At the end of June 2020, the guarantee liability in effect was EUR 30.5 million. One-off payments at the withdrawal date and annual guarantee fees have been paid for the guarantees. The guarantee will expire on 9 February 2022 at the latest.

As was noted at the beginning of section 5.1 above, the coronavirus crisis has increased central government guarantee liabilities during the current year. At the end of April, a guarantee programme of a maximum of EUR 600 million was granted under the second supplementary budget for shipping companies that are critical for security of supply. Due to the exceptional situation caused by the coronavirus crisis, the Government also authorised a guarantee of a maximum of EUR 540 million for a loan taken out by Finnair Plc in May 2020. The coronavirus situation has also resulted in a significant increase in unemployment security expenditure, which is why central government granted a EUR 880 million guarantee for Employment Fund loans in June 2020. No guarantee fee was charged for the guarantee. According to the European Commission Communication, the duration of state support measures in response to the COVID-19 outbreak granted in the form of new public guarantees is limited to maximum six years.

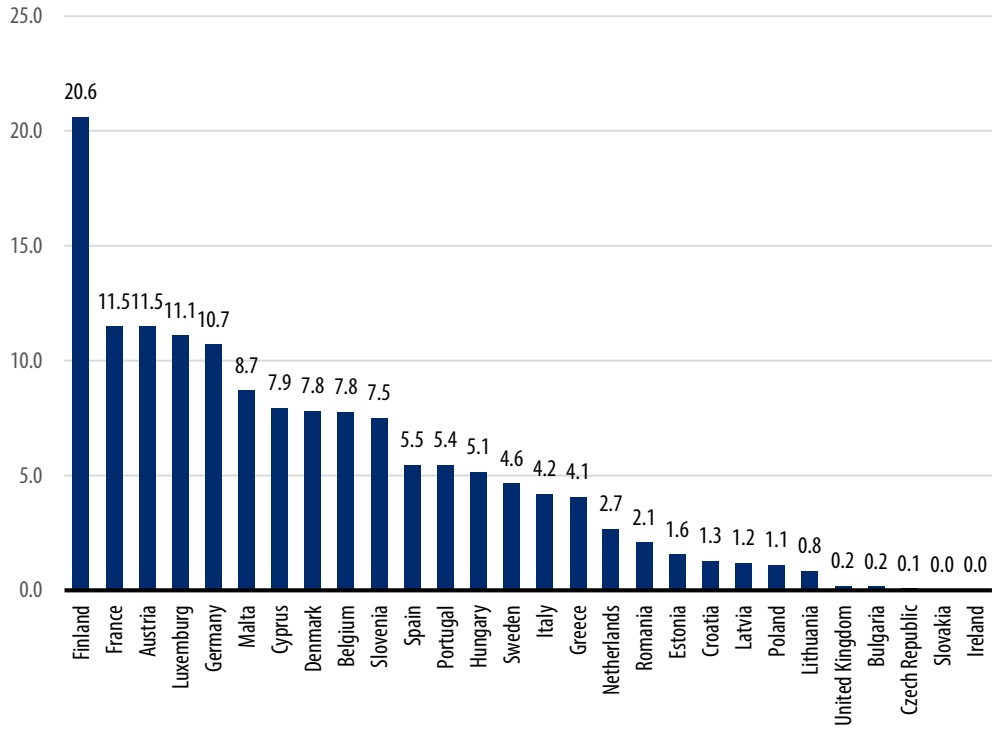
Central government has also taken on new guarantee liabilities through the crisis management instruments established within the EU. To cover any losses of the European Investment Bank, a Pan-European Guarantee Fund in response to COVID-19 was created, with the Finnish share of the liabilities amounting to EUR 371 million. To mitigate unemployment risks, the EU Member States established the SURE instrument, for which Finland's calculated guarantee liability totals EUR 432 million. In addition to these, Finland's liabilities will be increased by the recovery instrument, but the related negotiations are still underway at the time of writing this overview (in October 2020).

5.1.7 International comparison of central government guarantees

By European comparison, the ratio of Finnish central government guarantees to the GDP is high. According to the 2018 figures collected by Eurostat, the ratio of central government guarantees held by Finland to the Finnish GDP is 20.6%, which is clearly the highest rate in the EU (Figure 24).[28]

The Finnish central government guarantee portfolio has also grown more rapidly than elsewhere in the EU in recent years (Figure 25). Between 2014 and 2018, the Finnish guarantee portfolio showed the fastest growth in the EU. During the period under review, the central government guarantee to GDP ratio for Finland grew by 5.4 percentage points. Denmark came second with 4.1 percentage points, but its guarantee portfolio to GDP ratio at the end of 2018 was 7.8%, which is substantially lower than in Finland. In other EU countries, changes in the guarantee portfolios were minor, and some countries have even reduced their portfolios.

Figure 24. Central government guarantees held by EU Member States in 2018, % of GDP[29]

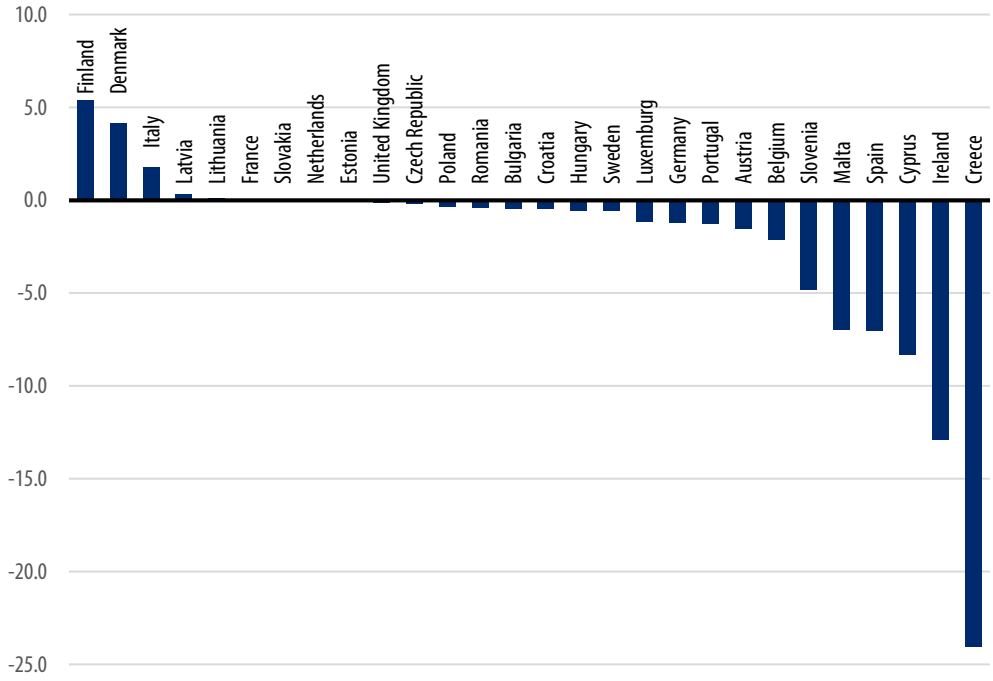


Source: Eurostat

28 https://ec.europa.eu/eurostat/web/government-finance-statistics/contingent-liabilities

29 The figures do not include the liabilities of the European Financial Stability Facility (EFSF).

Figure 25. Changes in central government guarantees to GDP ratio in EU Member States in 2014–2018 (percentage points)[30]



Source: Eurostat

5.2 Callable capital in international financial institutions

Capital liabilities refer to callable capital remitted to international financial institutions (IFIs) in the event that capital is required to cover losses or to prevent their insolvency. By far the most significant capital liability is to do with the European Stability Mechanism (ESM). Finland's share of the callable ESM capital is EUR 11.14 billion.

30 The figures do not include the liabilities of the European Financial Stability Facility (EFSF).

Table 3. Central government capital liabilities, EUR billion

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Asian Development Bank (AsDB)*	0.4	0.41	0.4	0.38	0.41	0.44	0.44	0.49	0.42	0.42
African Development Bank (AfDB)*	0.11	0.35	0.35	0.33	0.35	0.38	0.38	0.35	0.36	0.36
Inter-American Development Bank (IDB)**	0.12	0.12	0.13	0.14	0.18	0.22	0.25	0.22	0.23	0.23
European Bank for Reconstruction and Development (EBRD)	0.18	0.3	0.3	0.3	0.3	0.18	0.3	0.3	0.3	0.3
World Bank Group (WBG)[1]**	0.74	0.76	0.79	0.87	0.97	1.15	1.29	1.09	1.13	1.2
European Investment Bank (EIP)	2.82	2.82	2.82	2.82	2.82	3.1	3.1	3.1	3.1	3.1
Council of Europe Development Bank (CEB)	0.04	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07
Nordic Investment Bank (NIB)	0.69	1.01	1.01	1.01	1.01	1.09	1.09	1.09	1.09	1.09
European Stability Mechanism (ESM)	0	0	11.14	11.14	11.14	11.14	11.14	11.14	11.14	11.14
Total	**5.1**	**5.83**	**17.01**	**17.06**	**17.25**	**17.77**	**18.05**	**17.85**	**17.84**	**17.91**

* Capital expressed in SDR (**USD), translated into euros at the closing exchange rate for the year.

** Includes the International Bank for Reconstruction and Development (IBRD), International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA).

Sources: Financial statements, Ministry of Finance, Ministry for Foreign Affairs

5.3 Other contingent contractual liabilities

Central government is responsible for the achievement of emissions targets in the non-ETS sector, i.e. the Effort Sharing sector (transport, agriculture, housing). It appears that the current emissions reduction obligation (-16% compared to the 2005 level by 2020) will be met.

In summer 2018, the EU adopted emissions reduction targets for the Effort Sharing sector for 2021–2030. The target for Finland is to reduce its greenhouse gas emissions by at least 39% compared to the 2005 level by 2030. Finland is expected to reach this target, too, provided that the measures set out in the Medium-Term Climate Change Policy Plan for 2030 are implemented. However, should the development of emissions levels be less favourable than expected, for example as a result of stronger than predicted economic growth, central government would be forced to adopt new actions aiming to cut emissions in the Effort Sharing sector. It would also be possible, but only to a limited extent, to use Kyoto Flexible Mechanisms to transfer ETS allowances or surplus Land Use, Land-Use Change and Forestry (LULUCF) sector allowances to the Effort Sharing sector to meet its obligation.

In addition to the obligation concerning the Effort Sharing sector, in the 2021–2030 period central government will be responsible for the achievement of the emissions obligation of the LULUCF sector. Central government has made a commitment to keeping the calculated greenhouse gas removals of the LULUCF sector at least at the level of its calculated emissions. Should the LULUCF sector turn into a net calculated emissions source by 2030, the calculated emissions of the LULUCF sector may need to be compensated by additional emission reductions in the Effort Sharing sector. In addition, EU Member States may also trade with each other in LULUCF units.

The EU has announced plans to increase its emission reduction targets for 2030. Legislative proposals to increase the EU ambition will be made in summer 2021 and will also contain a proposal on how the EU emission reduction targets would be broken down into Member State specific obligations.

Another contingent contractual liability that is legally binding to central government concerns nuclear operations as set out in the Nuclear Liability Act (484/1972). Nuclear liability refers to the liability of the operator of a nuclear installation for damage to a third party by radiation resulting from a nuclear incident. The Act (581/2011) on temporary amendment of the Nuclear Liability Act entered into force at the beginning of 2012. Under the Act, the liability of an operator of a nuclear installation situated in Finland in respect of nuclear damage caused and suffered in Finland is unlimited. The liability of an operator of a nuclear installation situated in Finland in respect of nuclear damage caused by any single nuclear incident and suffered outside Finland shall not exceed 600 million Special Drawing Rights (SDR), or around EUR 723 million at the current exchange rate. The operator is required to take out and maintain insurance to cover the operator's liability up to the maximum amount of SDR 600 million. Under the Nuclear Liability Act, the State of Finland has secondary liability for nuclear damage if those entitled to compensation cannot be compensated under the operator's insurance. The Nuclear Liability Act is based on international conventions amended by protocols in 2004. The protocols and the resulting amendments to the Nuclear Liability Act are estimated to enter into force from the beginning of 2022. In addition, amendments to the Nuclear Liability Act are being drafted and intended to enter into force at the same time as the protocols.

5.4 Implicit liabilities of the banking sector

Prudential and crisis resolution legislation imposes minimum obligations for banks. By fulfilling these obligations, banks are expected to either be able to continue their operations also through difficult circumstances in their operating environment or, if this is not possible for an individual credit institution, the continuation of society's critical

functions could be ensured by employing an orderly crisis resolution procedure[31]. Deposit guarantee legislation in turn safeguards enterprise and household access to deposits up to a specific limit in case of issues.

Central government has no statutory obligation to guarantee the continuity of banks' operations or their liabilities held by their creditors. The history of banking crises both in Finland and Europe has shown, however, that the direct and indirect societal costs of severe banking crises are, or they are considered to be, so high that the public sector has been forced to take support measures to ensure the continuity of financial services essential to society.[32] This has applied in particular to situations where multiple banks have experienced difficulties at the same time and the functioning of the entire financial system has been in jeopardy. This can be referred to as the realisation of implicit liabilities in the banking sector.

5.4.1 Situation of the banking sector in Finland

The COVID-19 outbreak that grew into a global pandemic in early 2020 has dramatically changed the operating environment of Finnish banks, too. Measures to curb the pandemic, together with the increased caution of citizens, have halted or strongly contracted economic activity in most industries. According to preliminary estimates, Finland's GDP in the second quarter contracted by 6.4% year on year. The corresponding figure for the other Nordic countries is around 8%.

Financial performance reported by banks for the initial phase of the coronavirus crisis so far only include impacts of the crisis as regards certain aspects. With regard to credit losses and impairment losses on receivables, only estimates on the basis of which banks have made provisions for these losses are currently available. Provisions made by banks in January–June totalled EUR 949 million, while a year earlier the corresponding figure had been EUR 141 million. At the annual level, the provisions account for around 0.4% of the average credit portfolio. According to figures collected by the Financial Supervisory Authority (FIN-FSA), the ratio is around twice this for major European banks, although it should be noted that great caution should be exercised in comparisons, especially at the moment when different countries apply forbearance measures in different ways. In

31 To read more about the crisis resolution procedure for banks, see the Overview of Central Government Risks and Liabilities 2019. Last year's report also discussed the special characteristics of the Finnish banking sector and their connection with the sector's sensitivity to disruptions.

32 The literature contains plenty of research on the costs incurred by general government finances from financial crises, including https://www.ecb.europa.eu/pub/economic-bulletin/focus/2018/html/ecb.ebbox201806_04.en.html.

Finland, non-performing loans of Finnish banks were at a very low level in EU comparison already before the COVID-19 crisis.

In Finland, central government support measures for enterprise financing and forbearance granted by banks have helped to alleviate the situation and, for example, the number of bankruptcies has not yet started to increase this year. It is, however, likely that credit and valuation losses cannot be avoided in the future. This will depend mainly on how long the crisis lasts, how great the losses are and how well banks have prepared to sustain them. Currently (in September 2020) there are no highly reliable or precise estimates available on the amounts of any future losses.

Despite the declining macroeconomic situation, the solvency and liquidity figures of Finnish banks are still at a good level[33]. The average Common Equity Tier (CET) 1 ratio in June 2020 was 16.9%, almost at the same level as in March. Measured by CET 1, the solvency of Finnish banks is clearly stronger than the EU average (14.9%). The additional capital buffer relative to risk-weighted assets was 6.7% in June.

In April, the macroprudential authority of Finland (the Board of the FIN-FSA) decided to ease the additional capital requirement of credit institutions in order to support lending, which has contributed towards an increase in the capital buffer. An indicator of short-term liquidity, the Liquidity Coverage Ratio (LCR) averaged 168% at the end of June and therefore clearly exceeded the regulatory requirement of 100%. Also the LCR in Finland is clearly above the EU average.

Regardless of the environment of extremely low interest rates and the coronavirus crisis that broke out in the spring, the profitability of the core business of Finnish banks remained reasonable during the first half of the year. Operating profit has declined mainly due to provisions made in the first months of the year for future impairment losses. Operating profit of Finnish banks for the first half of 2020 totalled EUR 1.4 billion, down from EUR 2.2 billion a year earlier. The return on equity (ROE) measure of profitability was 4.2% for January-June this year (6.7% last year), which is more than three times the average for European banks reported by the European Central Bank (ECB).

33 FIN-FSA review on the status and risks of the entities supervised, September 2020: https://www.finanssivalvonta.fi/mark-kinoiden-vakaus/valvottavien-taloudellinen-tila-ja-riskit/

5.4.2 Risks and their management

In May 2020,[34] the Bank of Finland assessed future loan losses of banks on the basis of two macroeconomic scenarios. The scenario where GDP would contract by 5% this year appears currently to be closer to the likely economic trajectory than the scenario with a more serious crisis where the economy would contract by 13%.

According to the calculated scenarios, a recession would result in losses amounting to 0.2% of the loan stock of banks. As noted above, banks made provisions in early 2020 equalling 0.4% of their loan stock. Calculations like this always involve a significant error margin, but in the light of these, the situation appears to be reasonably good, especially as the aggregate capital buffer of the banks is large and their short-term liquidity is solid. The overall risk-bearing capacity of the Finnish banking sector appears to be quite good. Potential problems are related to differences between banks, which cannot be observed in sector-level reporting. This is a risk whose management belongs to the competent supervision and crisis resolution authorities in Finland and the EU.

If an individual bank were to face serious difficulties and crisis resolution was for some reason not possible, the bank would be placed in liquidation and a compensation obligation would arise, with compensation having to be paid from the national Deposit Guarantee Fund. Unlike in the case with crisis resolution, there is not yet any common European deposit guarantee scheme.

In Finland, the Financial Stability Authority (FFSA) is responsible for organising the deposit guarantee scheme for Finnish deposit banks. The size of the Deposit Guarantee Fund administered by the FFSA is around EUR 650 million and the Old Deposit Guarantee Fund (VTS Fund), to which the FFSA has access if necessary, EUR 618 million. This means that the total amount of funds available in the event of a crisis is around EUR 1.3 billion. The guaranteed deposits amounted to around EUR 134 billion at year-end 2019. This year, the payments made by banks to the Deposit Guarantee Fund will total EUR 105 million. If the assets previously raised by the Deposit Guarantee Fund are insufficient for the payment of compensation, the FFSA may obligate deposit banks to pay an additional annual contribution or lend assets to the Fund. In addition, in spring 2020, Parliament provided the Government with an advance authorisation for a loan limit of EUR 2 billion for the Financial Stability Fund administered by the FFSA. Under the limit, the Government may, on terms and conditions determined by the Government, issue a loan for the Financial Stability Fund, which in practice consists of the Deposit Guarantee Fund.

34 Bank of Finland Bulletin, 5 May 2020 (https://www.bofbulletin.fi/en/2020/2/financial-stability-assessment-pandemic-demonstrates-necessity-of-risk-buffers/)

5.5 Local government

Under section 121 of the Constitution of Finland (731/1999), Finnish municipalities have extensive self-government. Central government is not responsible for the municipalities' financial liabilities. Local government finances are, however, part of general government finances and therefore also closely connected with central government finances. Any problems in local government finances would also impact central government finances in one way or another.

The coronavirus pandemic and the movement restriction measures introduced by the Government in spring 2020 have affected the revenue and expenditure of municipalities, too. The Government has supported the municipalities through multiple mutually supportive measures in the 2020 supplementary budgets. The support package for municipalities and hospital districts totals around EUR 2.2 billion (situation in October 2020). The additional support is for a fixed term and mainly allocated for 2020.

The impacts of the coronavirus pandemic on individual municipalities have varied due to factors including their industrial and service structure, the number of COVID-19 cases and geographical location. In the early stages of the pandemic, the impacts focused in particular on municipalities in whose industrial structure the service, logistics, event and tourism sectors play a great role, in other words the big cities and smaller municipalities dependent on tourism.

The total combined annual contribution margin of municipalities has in general been positive but, apart from a few exceptional years, insufficient to cover depreciation and net investments. This has resulted in an increase in municipal indebtedness.

At the same time, municipalities have been forced to increase their local tax rates. The weighted average local tax rate for all Finnish municipalities has risen from 18.12% in 2004 to 19.93% in 2020.

5.5.1 Municipal loan stock

According to their final accounts for 2019, the municipalities' loan stock grew by around EUR 1.7 billion, amounting to EUR 18.4 billion at year end. As is the case for central government, municipal loan growth has been strong over the past couple of decades. In 2003, the municipal loan stock totalled EUR 5.5 billion, while at the end of 2019 the total loan stock of municipalities and joint municipal authorities stood at EUR 21.5 billion.

The total local authority corporation[35] loan stock amounted to EUR 39 billion over the corresponding period.

Around 45%–55% of the municipalities' loans are provided by Municipality Finance Plc (MuniFin). Currently, approximately 65% of new municipal sector loans and 80% of financing for central government-subsidised social housing construction come from this company. MuniFin is a credit institution owned by the municipalities, municipal entities and the local government pension institution Keva, with central government having a 16% stake in the company. Other funding providers include commercial banks and the European Investment Bank.

The Municipal Guarantee Board guarantees the funding of MuniFin. Under the Act on the Municipal Guarantee Board (487/1996), the member municipalities are jointly and in proportion to their population figures responsible for the funding of such expenses and commitments which cannot be otherwise covered. The member municipalities of the Board comprise all of the municipalities of mainland Finland.

The guarantees provided by the Municipal Guarantee Board have grown on a par with the operations of Municipality Finance. Its guarantee portfolio has more than tripled in less than ten years, increasing from slightly more than EUR 10.6 billion in 2008 to about EUR 33.1 billion in 2019.

The shared mission of MuniFin and the Municipal Guarantee Board is to ensure access to funding for the local government sector and for social housing construction in all market conditions. The clean credit history of Finnish municipalities and legislation that addresses the financial problems of individual municipalities have supported the credit standing of the Finnish municipal sector in the financial markets.

As a result, there are no major differences between municipalities in the pricing of the loans taken out through the joint municipal funding system. This may involve risks as financially weaker municipalities can also borrow money on reasonable terms, and loans may then be used also to maintain liquidity rather than to make financially sound investments aimed at ensuring basic services.

The risks are managed using an assessment procedure based on the final accounts of municipalities, which allows the Ministry of Finance to monitor the finances of individual municipalities and, if necessary, provide them with guidance. Very weak finances and

35 Under chapter 1, section 5, subsection 1 and section 6 of the Accounting Act, the group (corporation) relationship between a municipality and another entity is based on control. A group relationship may be formed on the basis of the majority of voting rights or some other type of effective control.

lack of restructuring potential may result in a municipality being merged with another municipality that has a more sustainable financial position.

However, the inability of a municipality to repay its loans is very unlikely and would be the result of highly exceptional circumstances. If a municipality were in such financial hardship that loan repayment is impossible, the lender would incur a credit loss regardless of whether it operated within the municipalities' joint funding scheme or as a private credit institution.

The annual increase in total municipal loans, coupled with growing indebtedness of the public sector as a whole, could pose problems when the markets assess Finland's credit rating.

On the whole, it is unlikely that the municipal loan stock would currently constitute a material risk factor for local government finances or, indirectly, for central government. However, it is the rate of growth in indebtedness that is a cause for concern. Financial statements for the past few years show that the increase in loans is already being translated into a decline in the municipal equity ratio and a weakening of the indicator measuring relative indebtedness.

The ability of the municipalities to borrow money regardless of their capacity to manage their finances may pose an additional risk to local government finances. Easy access to loans may lead to unnecessary investments and falsely optimistic estimates of the annual costs of investments. Investments are not limited by a deficit coverage requirement, and the coordination of investment projects is insufficient.

Once implemented, the Finnish health, social services and regional government reform will result in changes to the loan and asset amounts of the local government sector. The most significant entity will be the transfer of real estate assets relating to healthcare and medical care as well as related loan liabilities to the new counties providing health and social services. Their amount is anticipated to be around EUR 4.2 billion at the beginning of 2023. The loan stock transferred from hospital districts operating as joint municipal authorities will account for most of this amount.

Once implemented, the health, social services and regional government reform will result in the responsibility for organising health, social and rescue services being transferred to the new counties to be established for the purpose. In that context, part of the local tax will be moved to central government taxation to cover central government funding for the counties.

The government proposal relating to the reform is due for submission to Parliament in December 2020. The Government proposes that the new counties providing health, social and rescue services be operational at the beginning of 2023. The reform will considerably change the economic structure and functional role of the municipalities.

5.5.2 Municipal guarantees

Financial statements for 2019 show that the total of municipal guarantees amounted to around EUR 9.6 billion, of which around EUR 1.2 billion were for entities outside the same local authority corporation.[36] Changes in municipal guarantees over the past two years have been minor. In 2008, municipal guarantees totalled EUR 5.5 billion, of which around EUR 0.9 billion were for entities outside the same local authority corporation.

The amount of guarantees provided by joint municipal authorities was significantly lower. In 2019, their guarantees for entities in the same local authority corporation totalled EUR 528 million and for others less than EUR 6 million. The corresponding figures a year earlier had been EUR 721 million and EUR 6 million, respectively.

An examination of municipalities' guarantee practices reveals that small municipalities, in particular, have given significant guarantees in relation to their fiscal capacity. Realisation of the guarantee liabilities could put the municipality's functions at risk. In some municipalities, the guarantee liabilities equate up to a full year's operating expenses in healthcare and social welfare. If a guarantee obligation is realised, municipalities typically cover the losses by taking out a loan.

5.5.3 Municipal Public-Private Partnership (PPP) projects

In recent years, municipalities have made use of the Public-Private Partnership (PPP) model as an alternative procurement model for investments. In addition to loans, such projects have also often been financed through real estate leasing. The estimated value of PPP projects carried out by municipalities and joint municipal authorities in 1997–2019 is almost EUR 1.7 billion. It is estimated that the use of the PPP model has become clearly more common in the last ten years.

36 The analysis above does not include the municipalities' liabilities arising from the guarantees issued by the Municipal Guarantee Board.

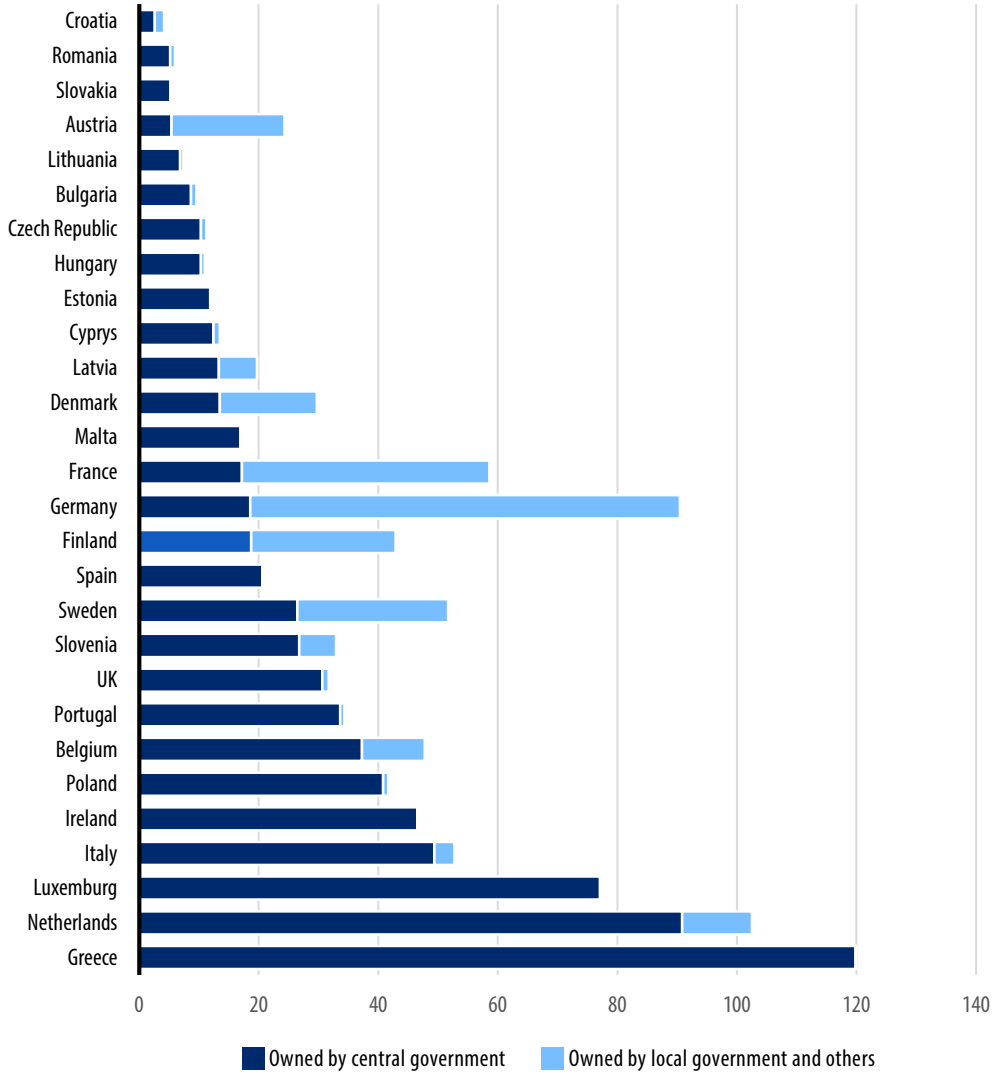
5.6 Implicit liabilities of state-owned companies

State-owned companies are part of central government financial assets (see chapter 3). However, they may also create indirect financial liabilities for central government. Central government may decide to provide loss-making companies or companies facing difficulties with capital injections or other financial support measures. Holdings in companies may also lead to the realisation of other types of liabilities, such as environmental damage. A recent example of liabilities arising for central government is the difficulties experienced by Finnair due to which central government has had to participate in the company's financing during 2020.

The State of Finland owns 66 companies directly.[37] According to enterprise statistics of Statistics Finland, the state had a controlling interest in 202 companies in 2018, either directly or indirectly. The companies in which the state is a majority shareholder have a very low debt-to-GDP ratio compared with other countries (Figure 26). When the debts between state-owned public companies are consolidated, the debt-to-GDP ratio falls to around 12% or EUR 28 billion. Of this total, around EUR 10.1 billion is debts owed by state-owned financial institutions and around EUR 18 billion owed by companies operating in other sectors. Loss-making companies had debts amounting to around EUR 7 billion.

37 Government Annual Report 2019

Figure 26. Debts of publicly-owned companies relative to GDP in 2018



Source: Eurostat, non-consolidated debt

5.7 Liabilities associated with environmental damage

The purpose of secondary environmental liability systems is to prepare for the need to pay compensation for environmental damage and to eliminate environmental risks in situations where the party causing the damage or risks is insolvent or unknown, or cannot be reached. In Finland, these systems comprise the compulsory insurance based on the Environmental Damage Insurance Act (81/1998) and the Oil Pollution Compensation Fund. In addition, central government budget funding is available as a last-resource

source of funding. The systems also include a support system in accordance with a Budget appropriation for old contaminated areas to identify their degree of contamination and decontaminate them. In addition, municipalities provide funding for the rehabilitation of old contaminated soil and groundwater sites.

Since 2013, central government budget funding has been provided for the management of serious environmental risks and prevention of dangerous situations relating to environmental contamination in eight different cases. All of the cases are related to financial difficulties of enterprises, and the enterprises have typically gone bankrupt. By the end of September 2020, funding granted from the central government budget had totalled around EUR 151 million. Of this, the amount granted due to environmental damage caused by the Talvivaara mine is clearly the most significant at around EUR 120 million.

This has shown that the existing secondary environmental liability systems and collateral do not cover all situations and are less than optimal. A legislative project launched by the Ministry of the Environment aims to create more comprehensive secondary liability systems for environmental damage. The aim is for operators' environmental obligations to be met as extensively as possible without central government intervention. The proposal for a government proposal is due to be submitted to Parliament in 2022.

6 Stress test

The impacts of a sudden downturn on general government finances can be simulated with a stress test. This stress test examines the impacts of an economic downturn and realisation of contingent liabilities on general government key figures such as revenue, expenditure, budgetary position and indebtedness. In addition, the stress test examines impacts on central government funds and net debt. The trend identified by the stress test is not a forecast. The purpose of the stress test is to illustrate the impacts of a serious economic and financial market shock on general government finances.

The stress test is based on the severe COVID-19 pandemic scenario provided in the macroeconomic projection of the European Central Bank (ECB)[38], while the scenario used by the European Banking Authority (EBA) in its stress tests for banks was used in the assumptions concerning financial market developments[39].

6.1 Stress test assumptions

In the stress test, the COVID-19 pandemic worsens towards the end of 2020 as the number of infections increases dramatically. The pandemic and the measures taken to contain its spread weaken economic growth, increase unemployment and cause a decline in the value of financial and real assets. The epidemic begins to subside around mid-2021 as a medical solution becomes available. The economic situation is worsened by bankruptcies caused by the recession, which increases household and enterprise debt servicing costs. Inflation slows, and so does the rise in wage and salary earnings. There is a major decline in business profits. Interest payable on Finland's public debt, however, decreases as investor demand moves to countries whose indebtedness is proportionally lower.

In the stress test, Finnish GDP growth in 2020 is -4.6 percentage points relative to the baseline. In the subsequent years, the corresponding figures are -1.3 and -0.6 percentage points. Cumulative growth is 6.5% weaker than the baseline. The unemployment rate

38 ECB June 2020 macroeconomic projection. Scenario data

39 EBA scenario https://eba.europa.eu/eba-launches-2020-eu-wide-stress-test-exercise

climbs 2.6 percentage points to around 10.6%. Share prices plummet by 25% but rise almost back to their pre-crisis level in the years ahead. Residential and commercial real estate prices still remain at a lower level in 2022.

The baseline for the stress test is the projection provided by the Ministry of Finance in the Economic Survey of autumn 2020. The baseline already includes an economic recession caused by the COVID-19 pandemic. The central government asset data employed in the net debt calculations uses the data already published for the second quarter of 2020, with slight amendments, as the initial level of the baseline for 2020.

Figure 27. GDP growth, baseline and stress test

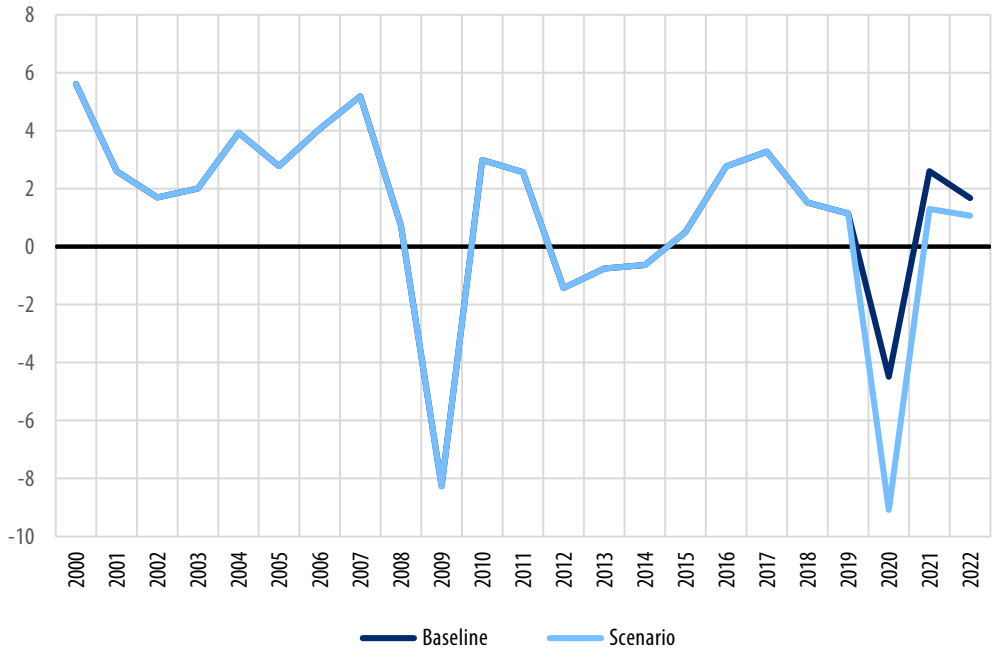


Table 4. Baseline and stress test variables

	Baseline growth %			Change relative to baseline, percentage points			Risk scenario growth %		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
GDP volume*	-4.5	2.6	1.7	-4.6	-1.3	-0.6	-9.1	1.3	1.1
Private consumption volume***	-3.8	4.0	1.6	-3.7	-1.0	-0.5	-7.5	3.0	1.1
Inflation*	0.4	1.2	1.4	-0.3	-0.3	-0.2	0.1	0.9	1.2
Index of wage and salary earnings***	1.7	2.5	2.0	-0.1	-0.5	-0.8	1.6	2.0	1.2
Unemployment rate, level*	8.0	8.2	8.0	1.4	2.5	2.6	9.4	10.7	10.6
Central government loans, level of 10-year interest	-0.2	-0.1	-0.1	-0.7	-0.6	-0.5	-0.9	-0.7	-0.6
Residential real estate prices (deviation from baseline)**				-4.4	-10.1	-13.5			
Commercial real estate prices (deviation from baseline)**				-7.8	-16.3	-18.6			
Share prices (deviation from baseline)**				-25.0	-20.0	-4.0			

*ECB, ** EBA, *** Ministry of Finance

6.2 Impacts on general government finances indicated by the stress test

Economic development shown by the stress test indicates considerable weakening of general government finances[40]. Economic contraction reduces tax income. Benefit expenditure increases due to an increase in unemployment. The stress test assumes that fiscal policy will remain unchanged. There will be no stimulation of general government finances through new decisions or policy changes, but automatic stabilisers are allowed to function unhindered. The stress test does not assume any new healthcare expenditure caused by the epidemic. Nor does the stress test examine the impact of the collapse of share prices on the solvency of earnings-related pension providers.

The sum of wages and salaries and, consequently, the income taxes and social security contributions received are reduced by the drop in employment and the slower growth of wage and salary earnings. The contraction of private consumption and prices in turn reduce revenue from indirect taxes, in particular value-added tax. Property income

40 The impacts of the shock on general government finances have been estimated using a scenario model for general government finances developed by the Ministry of Finance relative to the projections provided in the autumn 2020 Economic Survey of the Ministry of Finance.

decreases as the interest rate level shrinks and share values collapse, particularly for pension providers.

General government revenue is around EUR 6.5 billion below the baseline in 2022. The total general government revenue to GDP ratio increases by around one percentage point. The biggest impact on general government revenue arises from the reduction of around EUR 1.8 billion in direct taxes, i.e. income and corporation tax. The reduction in property income, i.e. interest, dividend and fund income, has the second-largest impact.

Development indicated by the stress test has an impact on general government expenditure that is on the one hand increasing and on the other decreasing. When the interest rate level drops, interest expenses of public debt decrease despite the increase in the amount of debt. The decline in price levels as well as in the level of wages and salaries reduces the payroll and operating costs of central and local government. Expenses in turn increase as unemployment expenditure and other social benefits increase by almost EUR 2.4 billion compared with the baseline in 2022. As other expenses decrease, the net growth in expenditure is around EUR 0.4 billion higher than the baseline. As GDP contracts, the expense-to-GDP ratio grows to more than 60%, almost 5 percentage points above the baseline.

6.3 Cost impact of contingent liabilities in the stress test

Finland has a significant amount of guarantees and other contingent liabilities. The role of contingent liabilities is examined in the stress test by focusing on Finnvera and the Housing Fund of Finland. Liabilities relating to these account for the largest share of central government contingent liabilities.

The stress test assumes that the recession caused by the COVID-19 pandemic causes problems in a sector for which Finnvera has granted guarantees, driving two to three of the largest guarantee customers to insolvency. The purpose of the assumption is to illustrate the concentration risk associated with export financing exposures; it has nothing to do with the solvency of the largest customers.

According to the stress test, the collateral provided covers around half of the largest guarantee customers' guarantee receivables but, even then, the total losses amount to EUR 1.4 billion. The losses clean out both of the export financing risk buffers (Finnvera's reserve for export credit and special guarantee operations and the State Guarantee Fund). If the State Guarantee Fund were depleted, this would increase the general government deficit, erode the cash assets and drive up the borrowing needs, as the State Guarantee Fund is linked to the central government's overall cash funds through a liaison account.

The losses of Finnvera's reserve for export credit guarantee and special guarantee operations would not have repercussions on the general government deficit or cash funds, but the stress test assumes that Finnvera is provided with a capital injection totalling EUR 700 million to cover losses in 2020–2022.

As regards the Housing Fund of Finland, the stress test assumes that a fall in housing prices drives an individual customer with an exposure of EUR 1.4 billion into insolvency. Realisation of property collateral covers 50% of the liabilities, which means that credit losses total EUR 700 million. The realisation of a large housing mass would be a slow process, however, and for this reason the entire guarantee liability of EUR 1.4 billion fall to the Housing Fund of Finland, and the general government deficit is increased by the same amount. The Housing Fund has cash funds totalling EUR 2.4 billion; no budget funding is therefore required to cover the guarantee liabilities, nor is there any need for a capital injection. Covering the guarantee liabilities does, however, result in the shrinking of central government cash assets as cash reserves of the Housing Fund are also connected via the liaison account with the overall cash funds of central government, forcing central government to borrow EUR 700 million more to keep the cash funds unchanged.

In total, contingent liabilities cause losses of EUR 2.1 billion at the 2022 level after the realisation of the collateral. Realisation of the contingent liabilities does not directly increase general government debt as the dissolution of the reserves does not have any debt impacts, and the cash flow required for the capitalisation of Finnvera can be covered by realisation of the Housing Fund's property collateral. Keeping central government cash funds to baseline levels does, however, require additional borrowing totalling EUR 2.1 billion.

6.4 Changes in central government financial assets in the crisis

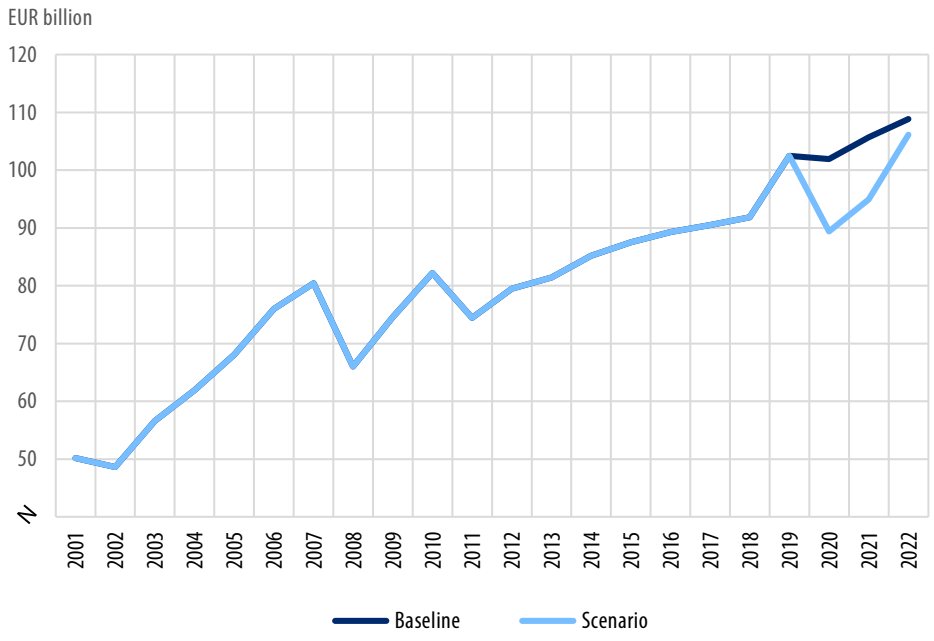
In an economic crisis, the development of central government assets also plays a role. Financial market uncertainty and price movements affect central government holdings. At the end of the second quarter of 2020, central government had financial assets totalling

EUR 114.9 billion[41], of which EUR 19.3 billion was held by the State Pension Fund of Finland[42] and the remainder by other central government units.

In the baseline, the ratio of central government share assets to GDP is assumed to remain unchanged. Central government held listed shares and equity fund units to a total of EUR 40.1 billion in the second quarter of 2020. Central government cash funds are assumed to contract to their normal level by the end of 2020.

In the stress test, central government financial assets decrease by more than EUR 12 billion or around 12% relative to the baseline in 2020. Stock markets recover in the stress test by 2022 to an extent whereby central government assets still remain EUR 3 billion or around 3% below the baseline. The shock is not expected to affect other central government receivables, including loans granted during the euro crisis, the value of real estate companies, universities' assets, the book value of unlisted state-owned companies or other receivables.

Figure 28. Impacts of shock on central government financial assets, EUR million



41 Central government also had a significant amount of cash funds at the end of the second quarter. The calculation assumes that cash funds decrease by the end of 2020, otherwise the asset situation in the second quarter of 2020 corresponds to the final asset level for 2020 in the baseline.

42 In the sectoral classification of the national accounts, the State Pension Fund belongs to pension providers, not central government. In this examination, the Fund's assets are regarded as central government funds.

6.5 Development of general government finances in the stress test

The stress test presented here describes the potential impact of a re-escalation of the COVID-19 pandemic situation on economic development and general government finances. The development indicated by the stress test does not appear to be likely for 2020, but it can be used to examine how a crisis similar to the stress test would impact general government finances. The economic outlook for the years ahead is still very uncertain, although the outlook has become clearer since the spring. Surprises may still be in store as regards the evolution and consequences of the pandemic.

The state of general government finances in Finland is already difficult in the baseline. The recession caused by the outbreak of the pandemic in the spring and the measures taken to alleviate its impacts have resulted in a substantial general government deficit, and indebtedness is increasing rapidly. The acute crisis now appears to focus on 2020, with the situation anticipated to improve after that. No return to the pre-crisis deficit of 1% is in sight, however. General government debt-to-GDP growth continues in the baseline. In addition, there is still a great deal of uncertainty involved in the outlook for the next few years.

General government finances decline significantly in the stress test. Compared with the baseline, general government budgetary position weakens by around 3.3 percentage points relative to GDP in 2022. The debt-to-GDP ratio rises to almost 85%, which is around 10 percentage points above the baseline. Realisation of guarantee liabilities would further deteriorate the situation by increasing the deficit and the debt-to-GDP ratio. The majority of the decline affects central government deficit, but the impact on social security funds and local state administration is also high.

Central government net debt was negative before the 2008 financial crisis. Since the crisis, the net debt-to-GDP ratio has risen to around 15%–20%. In the stress test, central government net debt exceeds 30%. Central government financial assets are expected to recover almost fully from the collapse simulated by the stress test. The increase in debt is, however, so rapid that net debt grows.

In the stress test, the depth of the deficit results in a rapid increase in debt. The deficit cannot remain this deep for a long period without debt-to-GDP growing unsustainably. In the stress test, the increase in expenditure is curbed by the lowering of interest rates, but the increased amount of debt also increases the risk of interest rate fluctuations in the future. Balancing a higher debt-to-GDP ratio after a crisis is difficult, especially in conditions of low economic growth, and would require even more substantial measures. In addition, general government finances are burdened by the growing costs arising from

population ageing, in particular as regards care costs. After a worsened crisis, general government finances would be in an even more difficult situation and would lose even more of their space for response to future shocks.

Figure 29. Impacts of shock on general government budgetary position, % of GDP

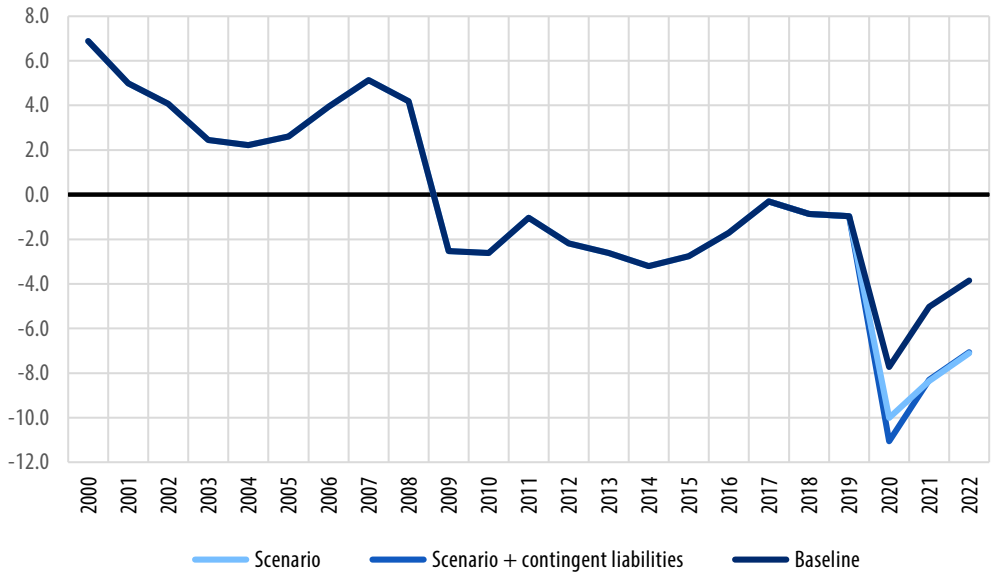


Figure 30. Impacts of shock on general government debt, % of GDP

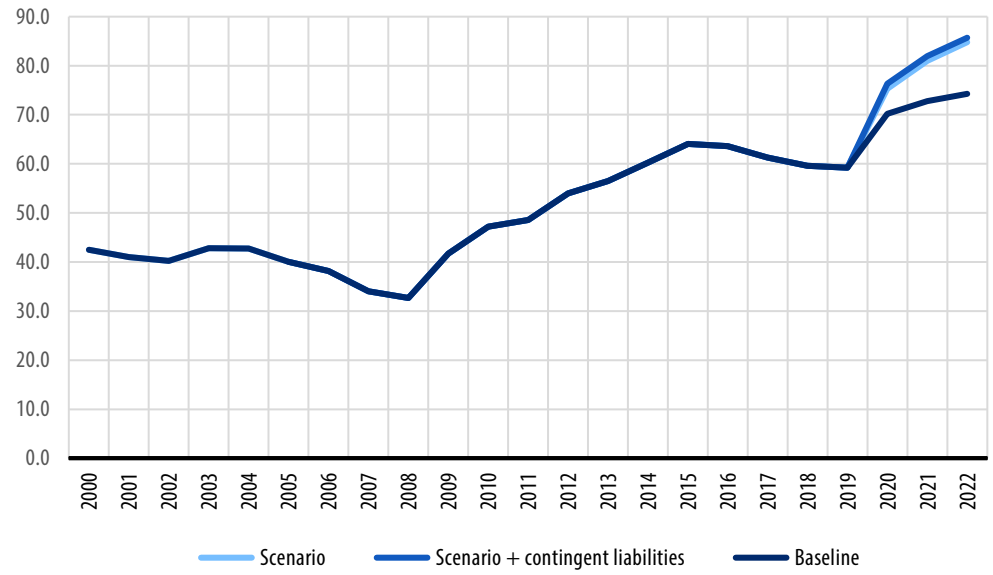
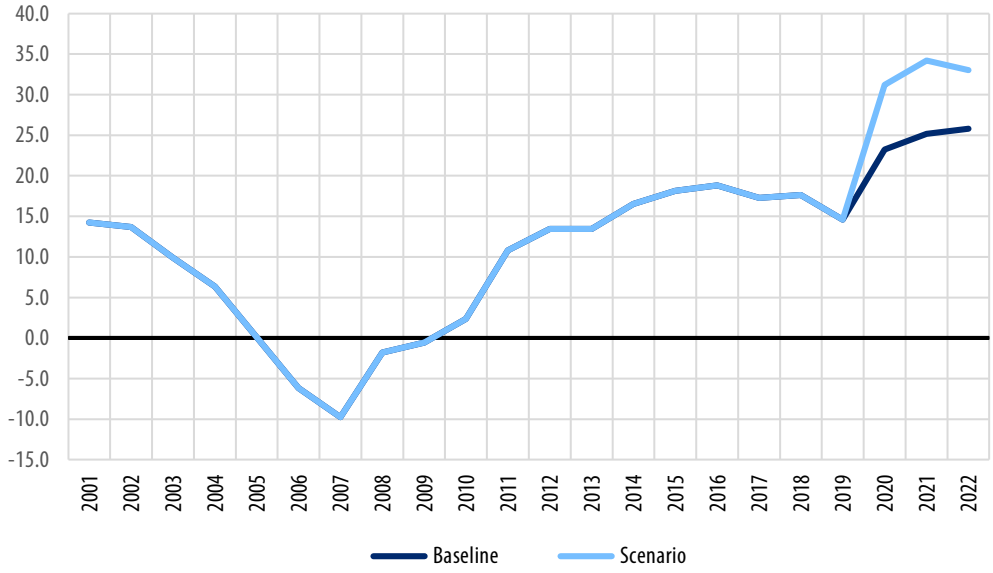


Figure 31. Impact of shock on central government net debt, % of GDP



APPENDICES

Appendix 1. Classification of central government financial liabilities

Liability/obligation	Direct Obligation in any event	Contingent Obligation if a particular event occurs
Explicit Legally binding	• budgetary expenditure • loan, interest • service fees under the PPP model • other statutory or contractual obligations	• central government guarantee (including export credit guarantee) • callable capital in international financial institutions • climate liabilities • nuclear liability
Implicit Societally / politically obliging	• citizens' basic social security	• deposit guarantee and other support to the banking sector • capitalisation of state-owned companies or ensuring their solvency • financial aid to the municipal sector • environmental liabilities, catastrophes, external and internal security

Source: Ministry of Finance

Appendix 2. Breakdown of central government guarantees in effect 2009–2019, EUR billion

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Change 2018–2019
Finnvera*	**13.4**	**12.8**	**14.0**	**14.8**	**14.6**	**17.5**	**22.6**	**22.6**	**27.7**	**30.3**	**32.6**	**7.6%**
Export credit guarantee operations	9.7	8.9	10.4	11.2	11.0	12.6	16.3	15.3	19.0	19.7	21.0	6.6%
Domestic liability portfolio	2.7	2.8	2.8	2.7	2.5	2.3	2.3	2.2	2.1	2.0	1.9	-5.0%
Central government guarantees for funding	1.1	1.0	0.9	0.9	1.1	2.6	3.9	4.9	6.5	8.7	9.7	11.5%
Student loans	**1.3**	**1.4**	**1.4**	**1.5**	**1.6**	**1.8**	**2.0**	**2.3**	**2.7**	**3.4**	**4.0**	**15.0%**
EFSF	**-**	**-**	**0.5**	**5.1**	**6.2**	**6.6**	**6.2**	**6.3**	**7.0**	**7.0**	**7.0**	**0%**
Bank of Finland**	**3.8**	**0.4**	**0.6**	**0.8**	**0.7**	**0.6**	**0.5**	**0.6**	**0.4**	**0.5**	**0.6**	**20.0%**
Central government funds	**6.3**	**7.9**	**9.2**	**10.2**	**11.2**	**11.8**	**12.3**	**13.2**	**13.8**	**14.6**	**15.5**	**6.2%**
Housing Fund of Finland	6.3	7.9	9.1	10.2	11.1	11.8	12.3	13.1	13.7	14.5	15.3	5.5%
Development Fund of Agriculture and Forestry	-	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0%
State Guarantee Fund	-	0.1	0.0	0.0	0.0	-	-	-	-	-	-	-
Other	**1.2**	**0.7**	**1.0**	**1.2**	**0.8**	**0.9**	**0.6**	**1.1**	**0.5**	**0.7**	**0.7**	**0%**
Total	**26.0**	**23.2**	**26.8**	**33.7**	**35.0**	**39.2**	**44.2**	**46.1**	**52.1**	**56.6**	**60.2**	**6.4%**

* The liabilities in effect (used and unused) have been included in the guarantee and liability amounts related to export credit guarantee and special guarantee operations. The risk arising from repayments of export credits granted by Finnish Export Credit Ltd is covered by an export credit guarantee granted by the mother company, Finnvera. Finnvera's funding within the framework of the EMTN loan programme has a central government guarantee. To the extent that the loan guaranteed by the central government has been used to finance export credits, the central government's liability for export guarantees and government guarantees for funding is not doubled, but as a result of various factors, they could be realised at different times.

** Shows the maximum amount available up to 2009 and the amount in effect since 2010. This is due to changes in reporting practices.

Sources: State Treasury, Ministry of Economic Affairs and Employment

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